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IMPACT OF TEACHER TRAINING PROGRAMS IN GEORGIA ON THE SELF-EFFICACY OF AGRICULTURAL EDUCATION TEACHERS IN THEIR FIRST YEAR

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by

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Abstract

Teacher self-efficacy is directly tied to teacher longevity. The researcher conducted a causal comparative study to determine self-efficacy in three domains: classroom, FFA, SAE and compared them with demographic characteristics, along with where teachers obtained their teacher training/certification. The purpose of this study was to determine the relationship between agricultural teacher self-efficacy and the teacher preparation programs that they completed. This surveyed first-year teachers within the state of Georgia that teach agricultural education. The Beginning Agriculture Teacher Assessment determined that there was no connection between teacher self-efficacy and the teacher preparation program. The Beginning Agriculture Teacher Assessment did conclude that among the three domains outlined in the three-component model established by the National FFA Organization that teachers were least efficacious within the SAE domain. By having, knowledge of where teachers struggle additional professional development can be created at the state level to ensure that teachers are more effective within the classroom.

Key Words: Agricultural Education, Self-Efficacy, Education

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CHAPTER I

INTRODUCTION

Agricultural Education is a unique niche area of education and skills teachers are in high demand across the country (Atkinson, 2020). State Supervisors reported that in 2018 there were over 60 empty positions with over 868 teachers leaving the classroom (Smith, Lawver, & Foster, 2019). Thompson and King (2013) reported that in Georgia 50 percent of teachers leave the profession within the first five years.

Educating today's society continues to grow with the increasing populations and shift with the ever-changing needs of communities and preparing teachers to meet those needs is ever growing. New teachers must be hired and trained in order to meet the demand (Atkinson, 2020). As society evolves into utilizing technology, teachers must continuously evolve to keep up. In fact, some students are taking all their classes online, while others leave school early to utilize the "Move on When Ready" program. Teachers must stay abreast and attend professional development programs to meet the needs of their school system while engaging their students. However, with teachers constantly leaving the classroom, training new teachers is a challenge for school systems. How can teacher preparation programs adequately prepare prospective teachers? How can school systems adequately train teachers to increase their self-efficacy therefore, increasing the amount of time teachers remain in the classroom?

Having high levels of self-efficacy is a high indicator of success and vital within a classroom (Bandura, 1994; Wolf, 2008). Alfassai (2003, p.28) defined self-efficacy as "the level of confidence an individual has in their ability to execute courses of action to attain specific performance outcomes". One also has to consider the self-efficacy as it pertains to social situations (Aldridge, 2014). "An individual's confidences in his or her ability to engage in the

social interactional tasks necessary to initiate and maintain interpersonal relationships" (Smith & Benz, 2000, p. 286).

Emotional self-efficacy has also been found to influence a person's (or teacher) ability to handle various levels of anxiety, depressions, and stress (Aldridge, 2014; Alfassai, 2003). Emotional self-efficacy can also play a role in a person's ability to get and keep a job along with having high networking skills (Aldridge, 2014; Pool & Qualter, 2013). Self-belief within a classroom setting is important because a teachers needs to believe that they can make a lasting impact on the daily life of a student (Wolf, 2008). Self-efficacy of a teacher is directly tied to the success and student achievement (Wolf, 2008; Woolfolk, 2007). The profession of teaching has numerous difficulties and much research has been conducted to determine the impacts of self-efficacy, teacher retention, along with why teachers leave the classroom.

Agricultural education is different or follows different rules requiring teachers to conduct home visits and consisting hosting events for the FFA component. "Becoming a teacher of agriculture is a complex endeavor requiring a great deal of commitment and a strong work ethic on the part of the teacher" (Phipps, Osborne, Dyer, & Ball, 2008 para. 2). Croom (2003) stated, "The job of being an agricultural education instructor is both demanding and challenging" (p. 1). Agricultural education is different because of the three-component model ensuring that FFA and SAEs are a part of the classroom/lab setting which leads to its own set of problems (Wolf, 2008). An agricultural educator must provide adequate instruction that revolves around each of the three-components. Typically, first-year teachers face problems such as organization, time-management, lesson planning, discipline and then the additional responsibilities with FFA (Atkinson, 2020; Mundt, 1991)

Scott & Sarkees-Wircenski (2008) state the following

> Career and Technical Education (CTE) curricula include materials that focus on the development of foundational skills such as basic skills, thinking skills, and personal qualities, as well as a common core of workplace competencies and the specific skill competencies required for each occupational area. (2008, p. 1).

Additional responsibilities and dedication are required of agricultural educators across the country but specifically in Georgia as a "Program of Work" (See Appendix J) was established because of the additional funding provided to teachers. A "Program of Work" (See Appendix J) is a set of minimal standards set forth by the Georgia Department of Education that dictates what the requirements are that an agricultural education must meet in order to receive extended day and extended year compensation (Georgia FFA, 2019). Beginning one's teaching career with high self-efficacy can assist in the retention of agriculture teachers (Wolf, 2008).

Due to the passage of the National Vocational Education Act or Smith-Hughes Act of 1917, agricultural education teachers have to implement the three-circle component model often making their jobs more difficult than the average first-year teacher (Wolf, 2008). Agricultural education teachers are required to complete the same tasks that an average teacher must complete in additions to the minimal requirements set forth by the "Program of Work" (See Appendix J) (Georgia FFA, 2019). Some of these additional requirements include completing ten home visits to students homes, competing in at least five Career Development Events (also known as contests), and attending various leadership events with students (Georgia FFA, 2019). The National Vocational Education Act in 1917 allowed the schools the opportunity to introduce vocational education classes, which tend to be more hands on allowing students to gain skills needed in a variety of professions (Priest & Ricketts, 2008; Kennedy, 2009). For over 100 years, experiential learning has been the core of agricultural education with a focus on real-world applications (Frost & Rayfield, 2020). The National FFA Organization along with Agricultural

Education organizations aim to make the group of students more diverse, specifically incorporating things, such as the diversity statement (National FFA, 2019). "The We Are FFA platform was created to promote the appreciation of diversity through inclusiveness. We encourage members to celebrate diversity while becoming multiculturally aware through inclusive activities:

- We believe as different as we are, we all desire the same. We all want a sense of belonging.
- Our vision is to further develop an inclusive organization where every person is respected, connected and affirmed.
- Our opportunity is to deliver national programs and provide resources that serve as a model in removing barriers and creating opportunities for success for every student, in every classroom, every day." (National FFA, 2019).

The diversity statement comes after the merge of the NFA and FFA allowing black males into FFA in 1965, females in 1965, and the official name change in 1998 to encompass all areas of agriculture (National FFA, 2019). One of the goals included ensuring that there is a deeper understanding of where a person's food and fiber comes from, and that we promote a variety of career opportunities, not just traditional farming (Kennedy, 2009; Phillips & Osborne, 1998). Agricultural education is vital to how we as a society continue to teach methods and rely on scientific principals in order to produce food and fiber (Kennedy, 2009). Agricultural education, which is under the umbrella of Career Technical Education, was established to give students a variety of skills and attributes that, will prepare them for careers within the industry (Auldridge, 2014; Scott & Sarkees-Wircenskil, 2008). Participation is vital among each of the three components within agricultural education as it assists in the preparation of communication, leadership, and social skills (Phipps, Osborne, Dyer, & Ball, 2008).

Agricultural education seeks to prepare students for the workforce; however, with the combination of the stresses of the average classroom, managing Supervised Agricultural Experience Projects, and the requirements of FFA, preparation can be challenging to any teacher (Phillips & Osborne, 1998). The majority of agricultural educators participated in FFA and were agricultural education students themselves (Kennedy, 2009). While student teaching and the requirements by each college or university can assist teachers in being prepared, it cannot fully emulate what a teacher will encounter on a daily basis (Wolf, 2008). Preservice experiences aim to give a broad overview of what is to be expected out of a teacher (Darling-Hammond & Bransford, 2005). However, it is impossible for one to glean all of the knowledge necessary to be an accomplished teacher within a short span of time. Additionally, agricultural education varies from program to program and often has different curriculum and program issues (Wolf, 2008).

Although agricultural education programs and FFA membership has steadily increased since the 1980's, there continues to be a shortage of teachers to fill vacancies (Kennedy, 2009). In 2007, there was an estimated shortage of 38.5% across the country (Kantrovich, 2007). Nearly one-third of all teachers leave the profession in the first three years, and many times, the lack of self-efficacy influences why those teachers leave the classroom (Ingersoll, 2011). The National Association for Agricultural Educators began a task force to address and research agricultural education teacher shortages across the county (Associated Press, 2010). Additional reasons for agricultural education teachers include overall ability to manage the classroom, the additional responsibilities related to FFA, organizing support such as an alumnus, time management, and creating relevant curriculum (Garton & Chung, 1996; Mundt & Connors, 1999; Myers, Dyer, & Washburn, 2005). Many of the reasons teachers stay in the classroom is because of the experience they have gained over the years (Croom, 2003). Could new, quality

agricultural education teacher preparation programs that focus on application and content increase agricultural teacher self-efficacy resulting in increasing the longevity of their career?

In the fall of 2018, a new agricultural education program received accreditation in Georgia. Presently, there are three agricultural education teacher preparation programs in Georgia, University of Georgia, Fort Valley State University, and Abraham Baldwin Agricultural College. Additionally, Emmanuel College has begun the paperwork with the Board of Regents to petition to have an agricultural education program on their campus. Furthermore, potential teachers have the opportunity to pursue alternate certification. When Abraham Baldwin Agricultural College established their agricultural education program, they developed a plan of action for students pursuing a degree, Figure 1.1. This program timeline is very similar to that of the University of Georgia and Fort Valley State University. This timeline gives clear expectations of what one most accomplish in order to graduate. Having a timeline like below allows students to have a concise and clear plan.

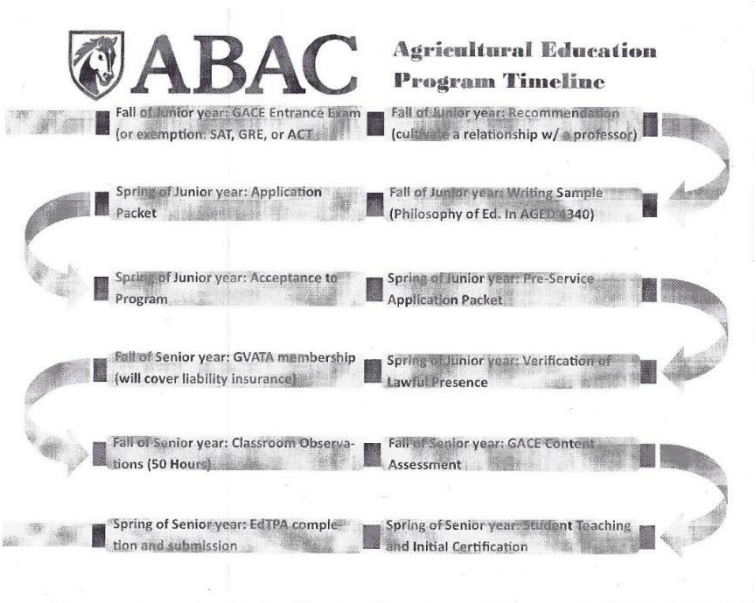

Figure 1.1 Abraham Baldwin Agricultural College Program Timeline for the Agricultural Education Program (ABAC, 2019).

Teacher preparation programs are vital to the success of the self-efficacy of the teacher (Woolfolk, 2000). Each of the above programs are four-year undergraduate programs that provide pedagogy and classes that provide background knowledge in a variety of areas that a potential teacher may teach upon entering the classroom. These classes include but are not limited to the areas of Animal Science, Horticulture, Agricultural Mechanics, Agricultural Business, and Forestry/Wildlife.

Presently in Georgia, there are 347 programs and more than 475 agricultural education teachers (Georgia FFA, 2019). Georgia agricultural education continues to grow as over 70,000 students are enrolled (Georgia FFA, 2019). This makes Georgia the third largest state FFA association within the National FFA Organization (Georgia FFA, 2019).

Statement of the Problem

Agricultural education across the nation continues to face teacher shortages (Crutchfield, Ritz, & Burris, 2013). Furthermore, the majority of agricultural teachers within the state of Georgia have less than 10 years of teaching experience (Georgia Ag Ed, 2019). Teachers need to have adequate support to assist in their longevity as agricultural education teachers. Additionally, as additional programs are added each year, it is important that teacher preparation programs produce highly qualified teachers that are ready to enter the profession.

Research has indicated that teachers often leave within the first three years in the classroom, as it is during this time that teachers face the most challenges (Wolf, 2008; Kennedy, 2009). Teachers that last longer than three years tend to have higher levels of teacher self-efficacy and in turn have higher job satisfaction (Woolfolk Hoy, 2000; Wolf, 2008; Kennedy, 2009). Research has indicated that it is easier to retain teachers with high teacher self-efficacy

(Wolf, 2008; Kennedy, 2009). Self-efficacy can be impacted by having a quality student teaching experience (Wolf, 2008; Kennedy, 2009). Research conducted by Wolf (2008) suggests that it is important that teacher preparation programs should align prospective teachers with experienced teachers that can have a positive impact.

Purpose of the Study

The purpose of this study was to determine the self-efficacy of teachers who have completed their first year and to determine if there was a correlation between self-efficacy and where they received their certification.

1. Determine if the college or university has an impact on the teacher's overall teacher self-efficacy.
2. Describe the overall perceived self-efficacy of teachers who have completed their first year of teaching.

Framework

This study was a descriptive, census study, and did not generalize the population outside of first-year agricultural teachers in Georgia. Dr. Katlyn Wolf (2018) created the instrument for this study. The framework for this study is based on Bandura's Social Cognitive Theory (1986), Bandura's Self-Efficacy Theory (1986), and Tschannen-Moran and Woolfolk Hoy's Teacher Self Efficacy Theory (2001). Bandura (1994) as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (p. 1). This theory suggests that people with high self-efficacy are more likely to accomplish tasks (Bandura, 1994). Self-efficacy was later applied to teachers and named Teacher Self-Efficacy Theory (Wolf, 2008). Research has shown that the higher the level of

teacher self-efficacy the more dynamic a teacher is, they often have less classroom management issues, and remain in the classroom longer (Wolf, 2008).

The instruments was created by Wolf (2008) to addresses the specific issues that agricultural education teachers in the area of teacher self-efficacy. Research was conducted and the instrument was developed based on information gleaned from other researchers Duncan & Ricketts, 2006; Duncan, Ricketts, Peake, & Uesseler, 2005; Garton & Chung, 1996; Joerger, 2002; Myers, Dyer, & Washburn, 2005; Roberts & Dyer, 2004; Wolf, 2008). The classroom domain component incorporated information from Ohio State Teacher Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001; Wolf, 2008). The three domains (Classroom/Lab, FFA, and SAE) were established to be specific to agricultural education (Wolf, 2008).

Scaling was based on Teachers Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001; Wolf, 2008). The nine-point scale asked teachers to respond on their capability to complete the activity at hand (Wolf, 2008). Responses range from 1= No Capability to 9= A Great Deal of Capability (Wolf, 2008).

Research Questions

RQ1: Is there a significant difference in self-efficacy between teachers who were certified through teacher preparation program at Abraham Baldwin Agricultural College, UGA-Tifton, UGA-Athens, Fort Valley State University, out-of-state programs and teachers who were certified through an alternative program for teacher certification?

RQ2: Is there a significant difference in the three domain areas (Classroom, SAE, and FFA) and where the teacher was certified?

Significance of Study

The significance of this study is to determine if there is a correlation between how and where a teacher receives their certification and their overall teacher self-efficacy after their first year of teaching. Each of the agricultural education teacher preparation programs in the state of Georgia, Abraham Baldwin Agricultural College, UGA-Tifton, UGA-Athens, and Fort Valley State University along with alternative certification programs and out-of-state colleges will be compared to determine if there is a different in their teacher self-efficacy.

This study may help provide a better understanding of students' needs with teacher preparation programs and how to prepare teachers to enter the classroom. Furthermore, it will add research to the areas of self-efficacy and agricultural education teacher self-efficacy. Additionally, this study should aid in the ability to recruit additional teachers. If teacher preparation programs understand the struggle that agricultural education teachers face as it pertains to agricultural education, then they are better able to prepare future educators.

This study may also encourage the discussion among the different colleges on how they can better prepare teachers that are entering the classroom. Having a better understanding of the needs of first year teachers will allow teacher preparation programs the opportunity to address the areas as needed. Additionally, this information can be used by the professional organization GVATA, Georgia Vocational Agricultural Teacher's Association, to plan and conduct professional development. Furthermore, the Georgia Department of Education conducts professional development on the state level for all agricultural teachers and this study may assist in making decisions on what is needed. This study may be used to aid in meeting the needs of the teachers within their formative teaching years.

Limitations of Study

This study was limited to first-year teachers within the state of Georgia. This was a census study of all first-year teachers. The results of this study cannot be generalized to agricultural educators outside the state of Georgia, teachers with more than one year of teaching experience, or teachers in other disciplines.

Definitions

- **Agricultural Education-**Program which prepares students for careers in all areas of agriculture utilizing three components; classroom/lab, FFA involvement and Supervised Agricultural Experience program. (National FFA, 2019; Kennedy, 2009)
- **Experiential Learning-**involving the learner utilizing active engagement in learning activities developing critical thinking and reflection (Sweitzer & King, 2009).
- **Career Decision Self-Efficacy (CDSE)-**A person's belief that they can complete tasks that will assist them in making a decision about a career. (Betz & Taylor, 2006; Kennedy, 2009)
- **Career Development Events (CDE's)-**Competitions based on in the classroom learning which is then applied to real life skills for FFA members (Kennedy, 2009).
- **Career Success-** Demonstrating skills necessary to be successful in a profession or a career (Croom, 2003; Kennedy, 2009)
- **National FFA Organization**-An organization, also known as Future Farmers of America, that develops premier leadership, personal growth and career success through agricultural education. (National FFA, 2019; Kennedy, 2009)

- **Smith Hughes Act of 1917**- An act that established vocational education throughout public school, which lead to the creation of the National FFA Organization (Kennedy, 2009).
- **State and National Convention-** Gatherings of FFA members of a yearly basis which includes a voting business meeting, awards and degree presentations and guest speakers (Kennedy, 2009)
- **Supervised Agricultural Experience (SAE)-**an after school project that encompasses "learning by doing" that gives students hands on training through goal setting, planning, and record keeping. (National FFA, 2019; Kennedy, 2009)
- **Perceived teacher self-efficacy-** Judgment about a teachers capability to bring about an outcome of student engagement and the ability for students to learn (Tschannen-Moran & Woolfolk Hoy, 2001; Kennedy, 2009)
- **Proficiency Awards-**a way to honor FFA members that have high quality Supervised Agricultural Experience projects (National FFA, 2019).
- **Three-Component Model of Agricultural Education-**visually displays the interrelationships between SAE, FFA, and classroom and laboratory instruction (Phipps et al., 2008; Atkinson, 2020).

Summary

The Beginning Agriculture Teacher Assessment and the information gleaned may be used by various groups in order to create professional development along with allowing teacher preparation programs to identify where their first year teachers struggle. This study will identify what agricultural education teachers feel capable/incapable in doing within the three-component model, Classroom/Lab, FFA, and SAE. Additionally, the Beginning Agriculture Teacher

Assessment could highlight specific areas that teachers feel are the most efficacious and areas in which they struggle. Having a better understanding of these areas will allow various organizations the opportunity to prepare quality professional development that will align with teacher needs. Chapter 1 provided a summary of the study and to determine the issues or concerns that agricultural education teachers face.

CHAPTER 2

LITERATURE REVIEW

The purpose of this study was to determine the self-efficacy of Agricultural Educators after the completion of at least one year of teaching. Within this chapter, theories and related topics will be discussed as they pertain to teacher self-efficacy. The research conducted through this study focused on Bandura's (1977) self-efficacy theory. Research has shown that self-efficacy assists in reducing teacher burnout and encourages teacher longevity, therefore reducing the teacher shortage (Bandura, 1994; Croom, 2003; Wolf, 2008). Furthermore, teacher self-efficacy directly correlates with classroom management, positive teacher evaluations, and student engagement (Woolfolk, 2000). Although there is significant research on self-efficacy, through much research Lively (1994) has found a significant amount of inconsistencies in methodology and interpretation. Over the years, standards and common core have been introduced to classrooms across the country, however: attention is now being refocused on teacher quality (Darling-Hammond, 2000)

Due to the shortage of agriculture teachers across the country caused by teacher turnover, it is important that teachers receive quality training in order to be prepared for the classroom, in addition to the extra duties required (Robinson & Edwards, 2012). Agricultural education has faced teacher shortages across the country since the mid-1960s (Blackburn & Robinson, 2008). Although this paper will discuss agricultural education specifically, there is a teacher shortage through all grades, subjects, and locations (Blackburn, Bunch, Haynes, 2017). School systems and teacher preparation programs across the country are attempting to train and keep teachers each year in order to educate our ever-growing population. In addition to recruiting agricultural

education teachers, it is just as vital to retain the existing population of teachers that has already received adequate training (Blackburn & Robinson, 2008).

McKinsey and Company created a publication in 2007, which examined the top performing schools around the world and found that the quality of the teacher in the classroom had the biggest impact on the effectiveness of the school itself. Since teacher effectiveness has become such an important topic several states including California, Wisconsin, New York, Tennessee, and Colorado have created various forms of legislation that addresses teacher quality, tenure, and evaluation (Hess, Rotherham, & Walsh, 2005). The effectiveness of a nation is dependent on the effectiveness of its teachers (Feiman-Nemser, 2001).

Preparing teachers to be effective in the classroom and ensuring the longevity of a teacher's tenure continues to be challenging for teacher preparation programs (Barnum, 2017). Unfortunately, it is a challenge to determine which programs are good, bad, effective, or ineffective (Barnum, 2017). Due to the lack of a measurement tool to judge programs, it is hard for policies to be created (Barnum, 2017). Some research has been conducted to see if there is a correlation between teacher effectiveness and student test scores however, it is still too challenging to distinguish the better teacher preparation programs (Barnum, 2017). This study sought to determine if there is a correlation between preparation programs and the overall teacher self-efficacy of agricultural educators.

Agricultural Science, FFA, and SAE

Agricultural Education is different from any of the other areas of teaching with the three-component model clearly defining the expectations of the teachers and students (Croom, 2008). Over seven million dollars is spent annually by the National FFA Organization to assist with maintaining and promoting programs to assist in growing agricultural education programs

across the nation (Croom & Flowers, 2001). The National FFA Organization attempts to offer numerous programs regardless of race, ethnicity, or gender (Croom & Flowers, 2001). In Figure 2.1, the National FFA Organization outlined a simple three-component model (Croom, 2008). Each circle is equal in size, which represents the importance of each when thinking of the total program (Croom, 2008).

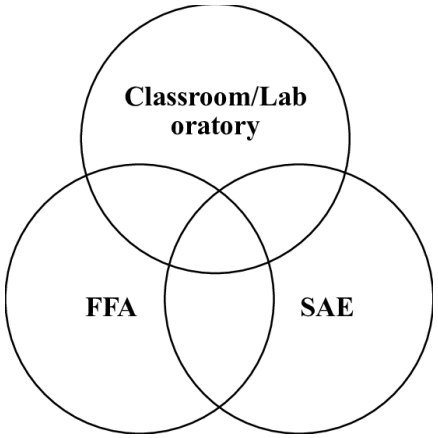

Figure 2.1 Three Component Model as outlined by National FFA (Croom, 2008)

Shelton (2015) indicated that it is important to understand the background and expectations of an agricultural education teacher so that one can appreciate their self-efficacy. The three component model created by the National Organization consists of the classroom/lab, National FFA Organization (leadership component), and SAE (experiential learning) as seen in Figure 2.1 (Croom, 2008). The statement holds true that agriculture and agricultural education is ever changing to meet the needs of students and society (Hughes & Kirby, 1993). Figure 2.2 shows the three-component model in more detail and how its overall goal is for students to be successful upon graduation from high school (Hughes & Kirby, 1993). While this model may seem dated, much of it is still relevant and continues to be taught as part of the curriculum throughout agricultural education classes.

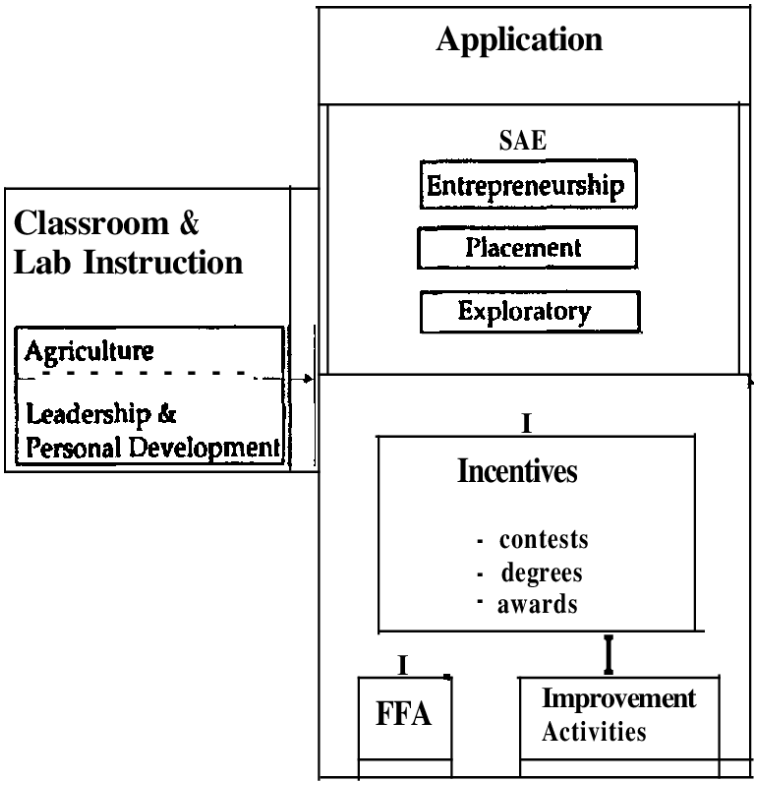

Figure 2.2 How the three-component model should be implemented through the agricultural education program (Hughes & Kirby, 1993).

The three-circle model is universally recognized among agricultural education teachers (Shoulders & Toland, 2017). Croom (2008) conducted research to determine when the three-component model was established however, there is no specific date in which it was presented. In fact, Croom's (2008) research suggested that various parts were presented at different times. With the passage of the Morrill Act of 1862, agricultural based instruction was passed down from land grant universities to various stages of public education (Atkinson, 2020). The Supervised Agricultural Experience projects were aligned with the passage of the 1917 passage of the Smith-Hughes Act and the establishment of the National FFA Organization came along in 1928 (Croom, 2008).

Rufis Stimson developed what is known today as the SAE (Croom, 2008). Supervised Agricultural Experiences were created as an at home project for agricultural students that was typically done on the farm with specific and measureable conditions (Croom, 2008). However, today's SAE can be conducted in a variety of means (Phipps, Osborne, Dyer, & Ball, 2008; Atkinson, 2020). Around the time of the passage of the Smith-Hughes Act, 30 states were already offering some form of agricultural education (Croom, 2008; Atkinson, 2020). The classroom/lab gives students the background knowledge needed to have a foundation in the industry (Shoulders & Toland, 2017). The SAE component also gives students the opportunity to gain experience and apply the knowledge that they have learned (Shoulders & Toland, 2017). The SAE dates back to the project created by Rufus Stimson in 1919 (Shoulders & Toland, 2017). Typically, the SAE component is the area that is focused on the least among agricultural teachers (Rubenstein, Thoron, & Estepp, 2014). So much so that many teachers across the county do not utilize the Supervised Agricultural Experience project fully or in the way that it was intended (Rubenstein et al., 2014). The FFA is the third component and is the leadership component that has various competitive components that promotes knowledge gained through the classroom and experiences through the student's SAE project (Shoulders & Toland, 2017). FFA was granted a federal charter in 1950, which allowed schools to make it inter-curricular (Croom, 2008). This model continues to be the backbone of agricultural education, is passed down through student teachers to current teachers, and is embedded into classrooms across the country (Shoulders & Toland, 2017). Unfortunately, agricultural education teachers do not divide their work among the three circles evenly and spend the majority of their time focused on the FFA circle with the classroom in second and SAE in third (Shoulders & Toland, 2017).

History of Agricultural Education

Agriculture and agricultural education have a strong and rich history within the United States (Barrick, 1989). Prior to the 19th Century, agriculture was studied, as a science was a foreign concept (Barrick, 1989). Agricultural education and its relationship began with the passage of the Morrill Act of 1862 when land-grant universities were established across the country with a focus on agriculture (Herren & Hillison, 1996). Through Morrill Act, the decision to begin agricultural education teacher preparation programs at land grant universities was also born (Herren et al., 1996). Although many agriculture educators consider that agricultural education began with the passage of the Smith-Hughes Act of 1917, Corn Clubs and Livestock Shows pre-dated and assisted in laying the groundwork (Jones & Edwards, 2019). The Hatch Act led the way to a more traditional setting of agricultural education where students applied structure to real-world problems (Shelton, 2015). The act established experiment stations across the country to meet the agricultural needs of regional communities (Shelton, 2015).

In 1917, the Smith-Hughes Act was passed mandating that agricultural education would be offered to students enrolled in secondary school settings (Hillson, 1996). The United States Department of Agriculture assisted with the promotion and developmental stages until 1929 (Hillson, 1996). The USDA created numerous resources for teachers to use and implement within their classrooms (Shelton, 2015). Various other organizations including the National Farm Bureau creates materials that are relevant and connected to the agricultural industry.

Through the Smith-Hughes Act, agricultural education shifted from academia to the vocational world, offering skills and training (Shelton, 2015). The Smith-Hughes Act was written by two congressional representatives from Georgia with the aspirations to implement vocational training to students (Shelton, 2015). Research indicated that in the early beginnings,

agricultural education teachers needed additional training (Hillson, 1996). In fact, agriculture teachers should have also had an extensive science background along with a working knowledge of the industry along with application abilities (Hillson, 1996). Much of the early curriculum was guided by Dewey's (1938) philosophy of giving students a trade that would afford them a skill upon graduating. Foundations of agricultural education was developed through teaching concepts and teaching the application to students (Shelton, 2015). Additionally, states had local control on content based on the region and commodities produced (Hillson, 1996).

In 1928, the Future Farmer of America (FFA) was created to promote premier leadership, personal growth and career success through agricultural education (Bender, Taylor, Hansen, & Newcomb, 1979). At the first National FFA Convention held in Kansas City, MO, 33 farm boys met and established what is known today as the National FFA Organization (National FFA Organization Records, 2019). The National Association of Agricultural Educators was founded as a professional organization in 1948 and provides additional professional development (Shelton, 2015). In 1950, Congress passed Public Law 740, which established the Federal Charter authorizing that FFA is an integral part of the agricultural education model (Camp & Crunkilton, 1985). In the 1960's, the FFA rebranded the organization with the goal to prepare more than farmers, soon after the name officially changed to reflect the new ideals of the ever-growing organization (Camp et al., 1985)

Role of an Agricultural Science Teacher

The job of all teachers regardless of content area is to prepare students for the next phase in their life. As society and technology continues to change, the role of an agricultural education teacher continues to do the same (McKim, Sorenson, & Valez, 2016). Agricultural education teachers integrate multiple core content areas into their classes, utilizing real-world examples

(McKim et al., 2016). Agricultural teachers must manage all three components of the three-component model to ensure that they are meeting standards set forth by the National Association of Agricultural Educators (Shelton, 2015).

In 1996, National FFA partnered with outside sources to create the 2020 plan, which was an overall idea of where the organization would be in the year 2020 (Conroy & Kelsey, 2000). The study, conducted by Conroy & Kelsey, (2000) identified a list of areas for concern, one of which included creating agricultural experts, as opposed to agricultural education teachers. Shelton (2015) describes agricultural education teachers being a part of two worlds, the academic role and one similar to a coach. An agricultural teacher's job includes completing home visits for students' Supervised Agricultural Experience, managing classroom and lab experiences, along with leadership training (Shelton, 2015). Due to the three-component model established by the National FFA Organization, it is important that an agricultural education teacher receive adequate preparation for each of the areas in order to meet the needs of their students.

Expectancy Theory

The Expectancy Theory is indicative of a person's motivation to finish any given task based on their view of the given task (Vroom, 1964). Previous experiences cause people to choose or avoid tasks based on the previous outcomes (Kennedy, 2009; Vroom, 1964). In fact, the theory indicated that if a person enjoys a task that they will continue doing so because of the pleasure that they gain (Kennedy, 2009; Vroom, 1964). Furthermore, if a teacher enjoys their time in the classroom then they will continue to teach (Kennedy, 2009). Below Figure 2.3 visualizes how the Expectancy Theory lays out that if a person puts forth effort and rewarded for

their hard work they will in turn have higher motivation (Kennedy, 2009; Vroom, 1964). The model also shows how the Expectancy Theory is a continual cycle.

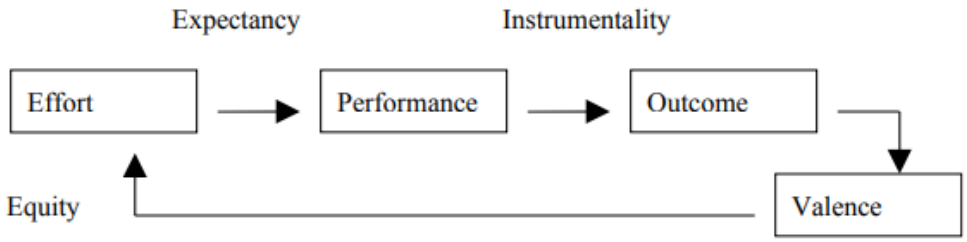

Figure 2.3 Expectancy Theory (Robbins, 2001, p.171).

Social Cognitive Theory

Bandura's (1986) Social Cognitive Theory deduces how a person behaves based on a model where each of the areas influence the other bi-directionally. Self-efficacy is derivative of the social cognitive theory, which determines how people gain and maintain certain traits (Wolf, (2008). As noted in Figure 2.4 (Bandura, 1986), personal factors, behaviors, and the environment affect a person's cognitive beliefs, which affect their overall self-efficacy. Prior to this concept nature versus nurture was the overwhelming belief of the majority (Swafford, 2013). Research has indicated that people are more apt to make choices based on prior experiences and their friend groups (Swafford, 2013). Which indicated, "people create and select their environments" positivity breeds positivity therefore negativity creates negativity. (Swafford, 2013, p.14).

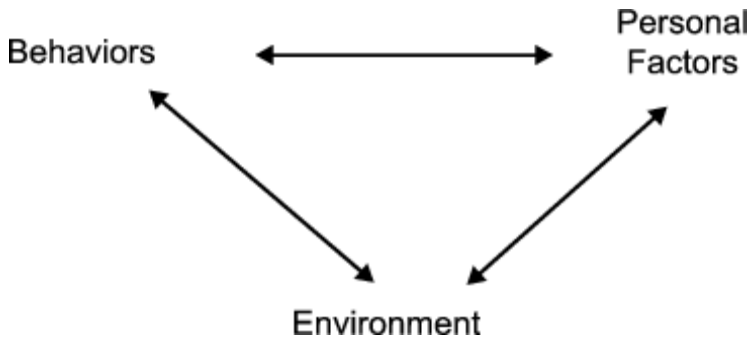

Figure 2.4: Conceptual model of triadic reciprocal in Social Cognitive Theory (Bandura, 1986).

Schunk and Usher (2019) suggests that Social Cognitive Theory has just as much to do with one's environment as learned knowledge. There are multiple components as it pertains to Social Cognitive Theory in the area of motivation but Bandura's seems to be the one everyone recognizes (Schunk & Usher, 2019). Through Bandura's theory that sets humans apart because of their ability to be motivated and have self-control (Schunk & Usher, 2019). Much of the constructs of this theory is modeled and learned throughout a person's tenure in school (Schunk & Usher, 2019). People have learned through various methods including observation, direct, and symbolic (Lively, 1994). Typically, a person's choices are dictated by their perception, which is tied to the social cognitive theory and a person's self-efficacy (Lively, 1994).

Self-Efficacy Theory

Self-Efficacy plays a vital role within the Social Cognitive Theory (Bandura, 1986). Affecting actions and overall effectiveness, self-efficacy plays a vital role in a person's ability to accomplish tasks (Shahzad & Naureen, 2017). Self-efficacy and self-esteem are often interchangeable; however, through research they should not be considered the same (Wolf, 2008). Bandura defined self-efficacy as "perceived self-efficacy as people's judgement of their capabilities to organize and execute courses of action required to attain designated types of performance" (p. 391). Self-efficacy is the belief in one's ability to be successful or to achieve certain goals (Wolf, 2008). There are three different levels of self-efficacy, strength, magnitude,

and people with high self-efficacy are more invested and are more persistent and recover faster from obstacles (Tweed, 2013). Korte and Simonsen (2008) indicated that self-efficacy is the perception of control within a situation or within one's self. Additionally, Wolf (2008) concluded that it is usually easier to handle everyday failures when someone has high self-efficacy. The self –efficacy theory is derived from the social cognitive theory, which says that one has control over what they do (Skaalvik & Skaalvik, 2007). Bandura (1986) uses Figure 2.5 to explain the impacts and implications of self-efficacy. The behavior or performance is based on several factors including past experiences, impacts that others have, feedback, situation, and personal evaluation (Bandura, 1986).

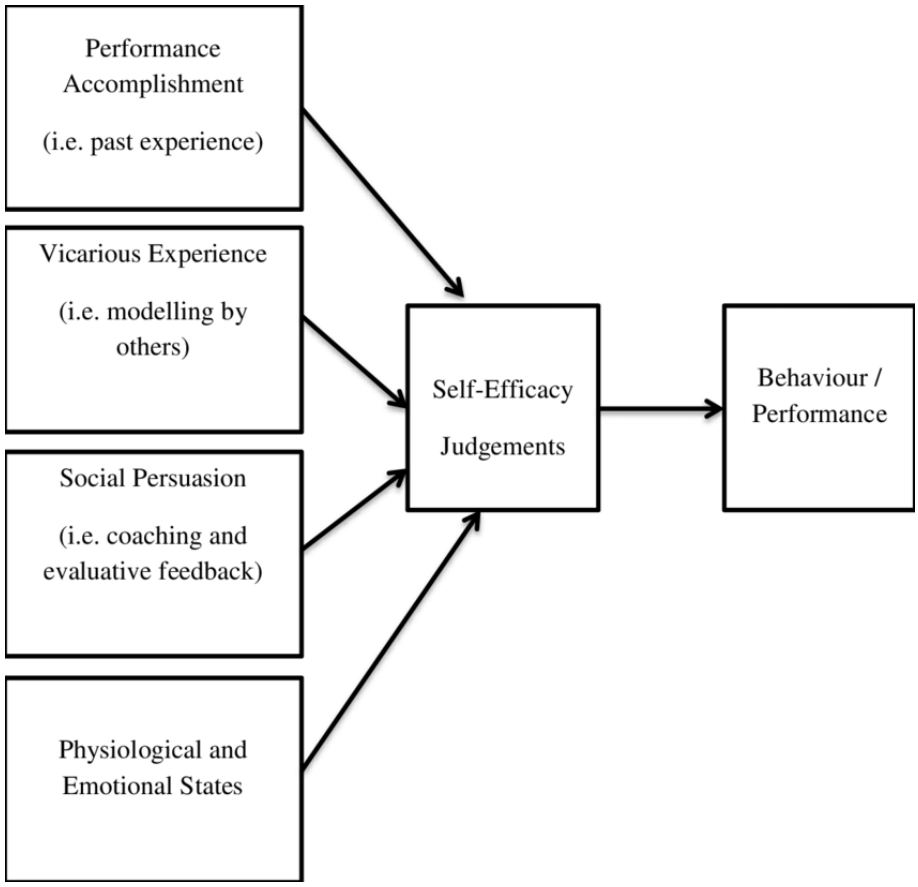

Figure 2.5 Self-Efficacy Model (Bandura, 1986).

Self-efficacy can be a strong motivator and predictor of human behavior (Wolf, 2008). Self-efficacy influences actions, work ethic, conflict resolution, and other factors that affect one's daily life (Schmitt, 2016). Learning occurs through multiple methods including direct, observational, mimicking, and symbolic (Lively, 1994). The saying is true, learn from my mistakes, as many model others behavior and this reduces the amount of trial and error (Lively, 1994). The RAND organization began testing efficacy using Rotter's Social Learning Theory and Bandura's Social Cognitive Theory (Tschannen-Moren, Hoy, & Hoy, 1998). Self-efficacy stems from four areas: mastery experiences, physiological and emotional states, vicarious experiences, and social persuasion unfortunately, failure leads to a decrease in self-efficacy (Bandura, 1994).

Mastery is considered the most powerful of the four areas (Bandura, 1994). Mastery means that if someone has an experience, one gains information then that will lead him or her further success (Schwartz, 2010). If someone is previously successful then they will have an overall high self-efficacy and conversely if they fail then their self-efficacy is lowered (Schwartz, 2010). During Mastery Self-Efficacy, a teacher often shares success stories and attempts to assist and affect others teaching (Shahzad &Naureen, 2017).

Vicarious, as a category, comes in close second to mastery (Schwartz, 2010). When someone watches another perform a task and is successful then then learner has a higher self-efficacy in order to try it themselves (Schwartz, 2010). Unfortunately, it is also through this method that teachers often compare themselves to others sometimes lowering their self-efficacy (Schwartz, 2010). Again, with Vicarious Self-Efficacy teachers share experiences and others emulate what other effective teachers do in order to have more success (Shahzad & Naureen, 2017).

Verbal is where one is told how to accomplish a task (Schwartz, 2010). Verbal is not as powerful as vicarious and mastery and has a lower impact on self-efficacy (Schwartz, 2010). However, if the task is successful, then there is a positive increase in self-efficacy, regardless of the method (Schwartz, 2010).

Psychological is the least powerful of the four methods and suggests the impact of anxiety, stress, fatigue, and various emotions on overall self-efficacy (Schwartz, 2010). Psychological area indicated that a person can have control over their mental state by altering their perception of a given situation (Schwartz, 2010).

Teacher Self Efficacy

The classroom teacher makes the largest impact on an individual student's learning; therefore, a teacher's self-efficacy is vital (Shahzad & Naureen, 2017). The higher the teacher self-efficacy the more positive the teacher is day-in and day-out influencing the overall effectiveness in the classroom (Shahzad & Naureen, 2017). Teacher self-efficacy was fashioned by merging Rotter's Locus of Control Theory and Bandura's Social Cognitive Theory (Gooddard, Hoy & Hoy, 2000). Researchers developed the teacher self-efficacy theory over 40 years ago to determine if a teacher's belief in their effectiveness could affect student success (Tschannen-Moren et al, 1998). Research indicated that student success can be directly related to the quality of the teacher (Mishel, Alegretto, & Corcoran, 2008; Crutchfield, Ritz, & Burris, 2013) Rotter's locus of control states that outcomes are impacted by actions, which is differing from perceived self-efficacy, which is the belief that one can influence actions (Gooddard et al, 2000). Differences in these theories were verified and will be discussed later (Gooddard et al, 2000).

Figure 2.6 (Tschannen-Moren et al, 1998), a cyclical system based on Bandura's four sources of efficacy, which include verbal persuasion, vicarious experience, physiological arousal, and mastery experience appears. Therefore, teacher self-efficacy is impacted by their confidence in completing the teaching task, which then dictates the goals, effort, and persistence (Tschannen-Moren et al., 1998). Self-efficacy for teachers can be tied to areas such as behavior, effort level, excitement, ability to plan, ingenuity, creativeness, commitment to the profession and having the ability to work with students that have challenges (Swan et al., 2011). When situations arise in which a teacher is stressed, their self-efficacy can assist them in managing the stress and anxiety that teachers feel towards the given situation (Stripling et al., 2008). Teacher self-efficacy also affects everything from goals and aspirations to ability to adapt to change and willingness to implement new technology to the strategies that they use (Tweed, 2013). Research also indicated teachers with high self-efficacy are far more organized, innovative, enthusiastic, and overall more prepared (Tweed, 2013). These teachers are often dynamic and focus on student learning (Tweed, 2013).

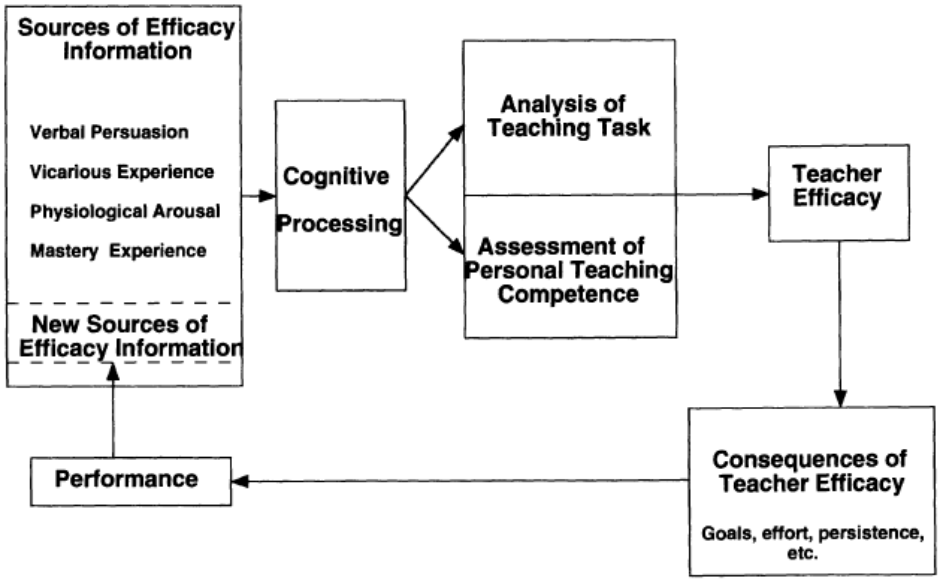

Figure 2.6 Framework of the teacher self-efficacy formation by Tschannen-Moran, Woolfolk Hoy, and Hoy (1998, p. 228).

Teachers with high self-efficacy tend to be more persistent, trying new methods to reach their students with innovative concepts and skills (Alwaleedi, 2016). Additionally, anxiety has had a significant impact on the self-efficacy of teachers, teachers' ability to control their emotions in stressful situations increases overall self-efficacy (Alwaleedi, 2016). Unfortunately, high self-efficacy does not always mean that the teacher is effective (Schwartz, 2010). However, teachers with high self-efficacy benefit students and the classroom atmosphere (Twee, 2013).

Bandura created a thirty-item instrument with seven subscales measured on a nine-point scale (Schwartz, 2010). The seven subscales include "influence decision-making, efficacy to influence school resources, instructional efficacy, disciplinary efficacy, efficacy to enlist parental involvement, efficacy to enlist community involvement, and efficacy to create a positive school climate" (Schwartz, 2010 p. 34). Then Tschannen-Moran, Woolfolk-Hoy, and Hoy created Teacher Sense of Efficacy Scale, previously called the Ohio State Teacher Efficacy Scale as an additional model to measure self-efficacy in teachers (Schwartz, 2010).

Research indicated that a teacher's self-efficacy is high during preservice and then continues to decrease the longer they remain in the classroom (Stripling, Ricketts, Roberts, & Harlin, 2008). Higher self-efficacy can be due to an established supervising teacher that is kind and gives positive and consistent feedback (Stripling et al., 2008). Student engagement, making lessons engaging while using instructional strategies and appropriate classroom management techniques seems to be an area in which all teachers struggle, regardless of years of experience (Stripling et al., 2008). Since engagement relies on the student, and not the teacher, this will continue to be an area in which teachers will struggle (Stripling et al., 2008).

Teacher Locus of Control

In 1966, Rotter developed a scale to determine a teacher's locus of control based social learning theory that measured control of life events (Maes & Anderson, 1985). The concept of teacher locus of control and research shows that individuals, specifically teachers, sees the amount of control they have over situations and events in their lives (Maes & Anderson, 1985). Locus of control influences a teacher's belief that they can have an overall impact on student behavior and academic performances (Cook, 2012). Locus of control is broken into two segments, external and internal (Cook, 2012). Locus of control, similar to self-efficacy, can influence the overall success of a teacher within a classroom (Cook, 2012). Teachers that possess higher locus of control are shown to be more creative in managing their classrooms and give more individual attention to their students (Alwaleedi, 2016). Teachers may have a high locus of control (believe that they can teach the material), however, have low self-efficacy (do not get the skills to get the students to understand) (Schwartz, 2010).

Measuring Teacher Self Efficacy

Through various types of research, it has been indicated that self-efficacy can have a significant impact on overall teacher success and burnout (Schwarzer, & Hallum, 2008). Usually, self-efficacy is broken into groups based on varying factors such as grade level taught and subject area (Schwarzer, & Hallum, 2008). Teachers that have higher self-efficacy are more willing to utilize difficult teaching methods and will be more effective in the classroom (Mueller, 2012). Teachers with high self-efficacy also see the benefit of professional development and gain more from attending and participating (Moore, 1990). When looking into measuring self-efficacy, a researcher looks at influences, program delivery, and how teacher preparation programs prepare future educators (Tano, 2010).

High teacher self-efficacy leads to positive, proactive, and decreased reactive teachers (Mueller, 2012; Emmer & Hickman, 1991; Woolfolk & Hoy, 1990). Additionally, higher self-efficacy in teachers increases the likelihood that they are make them more creative, take ownership of their actions, and embrace the actions of their students (Mueller, 2012; Ross 1998; Tschannen-Moran & Hoy, 2001). Typically, people are able to measure their own self-efficacy through reflection and positive experience, specifically within the classrooms (Krysher, Robinson, & Edwards, 2014). Research also indicated that job satisfaction and self-efficacy are correlated (Judge, Thoresen, Bono, and Patton, 2001; Mueller, 2012)

Bandura (1986) indicated that there are four different ways to measure self-efficacy. Those four areas include mastery, vicarious, social, and physiological (Bandura, 1986). Each of these have various impacts on self-efficacy, along with how it is measured (Egger, 2006). Teachers with high self-efficacy believe they have the ability to positively affect a student's education and their ability to be successful (Egger, 2006). Additionally, there is a significant correlation with quality teachers teaching in-field content and a decreased dropout rate among high school students (Darling-Hammond, 2000).

The Teacher Self Efficacy survey was created and administered with elementary teachers in order to determine the self-efficacy of teachers through observation along with the 30-minute survey (Egger, 2006). Again, Blackburn, Bunch, and Haynes (2017) concluded that the higher a teacher's self-efficacy, the more likely they are to stay in the profession and have an influence on other teachers. Research has also provide that teachers with more experience are better teachers (Hughes, 2012). Often teachers base their self-efficacy on their ability to impact and influence their students (Hughes, 2012).

Agricultural Educator Self Efficacy

Wolf, Foster, and Birkenholz (2009) developed a study to test the self-efficacy of agricultural educators examining the three-circle model developed by the National FFA Organization, which includes classroom/lab, SAE (Supervised Agricultural Experience Project), and FFA (leadership component). Unfortunately, this study does not evaluate physiological and emotional effects on agricultural educator self-efficacy (McKim & Velez, 2016). Research conducted by Knocbloch and Whittington (2003) concluded that teachers with high commitment to their career have higher self-efficacy which ensures that they will last longer in the profession, decreasing the teacher shortage.

McKim and Velez (2016) created a table describing the various studies of self-efficacy, with the instrument used, with the finding spanning 16 years, stopping at 2013. Extensive research has occurred to determine agricultural education teacher self-efficacy along with its impact (Solomonson & Retallick, 2018). Extensive studies have been conducted throughout the years indicating that there is a strong relationship between the student teaching experience and the self-efficacy of a first-year teacher (Swafford, 2013). Little research has been conducted on everything above the first year (Blackburn et al., 2017).

Research conducted by Crutchfield, Ritz, and Burris (2013) determined that if a teacher is able to balance their work and family life, then their self-efficacy is higher, they are more likely to stay in the profession, and be more effective in the classroom (Blackburn et al., 2017). Furthermore, a positive work environment has a positive correlation on teacher retention (Blackburn et al., 2017). Salary, lack of administrative support, and parental support all have ranked high on numerous studies as to why teachers leave the classroom (Boone & Boone, 2009). Because of the amount of teachers leaving the profession each year, school systems spend

an average of $2.2 billion annually in training and preparing teachers for the classroom (Haynes, 2014; Ingersoll, Merrill, & Stuckey, 2014; Solomonson, 2017). Research conducted by Boone and Boone (2009) found that 20% of teachers were not the same as the teachers present at the school three years prior which indicated the amount of turnover among school districts.

Overall, support increases self-efficacy among all teachers specifically with agricultural education teachers (Swafford, 2013). In fact, research has indicated one of the leading reasons for teachers leaving the profession is lack of support (Swafford, 2013). Self-efficacy also increased with the overall involvement of the teacher within the school and community, giving them a sense of belonging (Swafford, 2013). High self-efficacy also has been found to promote the overall health of the teacher (Wolf, Foster &, Birkenholz, 2009). Often, there are many psychological and physiological impacts similar to culture shock, which further affects the teacher's overall self-efficacy as an educator (Korte, & Simonsen, 2018). Since there is a lack of control perceived by many novice teachers, the self-efficacy continues to decline (Korte & Simonsen, 2018). "The job of an agricultural education teacher is often displayed as one that is physically, emotionally, and intellectually demanding, requiring more time and sacrifice than the typical career" (Shoulders & Toland, 2018 p. 87). Moreover, because of this, in addition to self-efficacy declining, there is a higher rate of teachers leaving the classroom due to burnout and stress (Shoulders & Toland, 2018).

In research conducted by Duncan, Ricketts, Peake, and Uessler (2006), teachers who completed a traditional agricultural education preparation program had a higher self-efficacy than those who were certified alternatively. Self-efficacy among agricultural education teachers is also dependent upon their knowledge outside the realm of Wolf's study including, but not limited to, the ability to reach special needs groups, program management assistance,

professional development, and managing all three of the components (Duncan et al., 2006). Unfortunately, much of the research conducted about agricultural education self-efficacy occurs prior to a teacher entering their first year in the classroom (Wolf et al., 2009).

Demographic Characteristics Related to Self-Efficacy

Students succeed when they are in a classroom with a teacher with high self-efficacy (Tano, 2012). Additionally, research has indicated that teachers that have more experience, had a better student teaching experience, and have a better support system have higher self-efficacy (Tano, 2012). Research conducted by Zientek (2006) supported a previous study conducted by Darling-Hammond et al (2001), which teachers with traditional educational certification backgrounds have a higher self-efficacy than those who are alternatively certified. This study has indicated that those with experience in the classroom have higher self-efficacy than novice teachers (Zientek, 2006). Research has indicated that there was no significant correlation between the length of student teaching and self-efficacy; however, there was an increase in self-efficacy at the completion of the student teaching experience (Egger, 2006).

Miller and Gliem (1996) conducted research on self-efficacy and gender of the teacher and they found little correlation. In 2008, Halat compared gender and self-efficacy with the level of math that the teacher taught and determined that males had higher self-efficacy. Then in 2009, Edgar, Rogers, and Murphy surveyed preservice agricultural teachers and there was no correlation with gender and self-efficacy. Additionally, in the study by Edgar et al. (2009) ethnicity did not have an impact on self-efficacy. One study did find that if student teaching is completed in one type of environment and then their first teaching job is in a different one, they might have less success (Hodgkinson, 2002). For example, if a teacher is in a rural setting but

then a teacher secures a job in an urban setting they may face issues that they would otherwise not had.

The longer a teacher is in the classroom, the more their self-efficacy grows (Schwartz, 2010). However, research has indicated there is no relationship between age and self-efficacy (Hicks, 2012; Hoy & Tschannen-Moran, 2007; Jenks, 2004; Voris, 2011). Hicks' (2012) research did indicate that there was a correlation between classroom management, age, and self-efficacy. "Findings suggest there are no significant differences in the self-efficacy levels of special education teachers when analyzed by age" (Tweed, 2013 p. 29). Furthermore, research indicated that teachers young in their career are more willing to change and teachers later in their career are set in their ways and unwilling to change, thus causing lower self-efficacy (Tweed, 2013). Research also indicated that female teachers typically report a higher level of self-efficacy than male teachers (Tweed, 2013). However, there is conflicting research indicating the opposite (Klassen & Chiu, 2010). Agricultural education has been typically a male dominated profession (Kelsey, 2007). Females and minorities typically make up a smaller portion of the teaching population and they typically focus on the area of horticulture (Kelsey, 2007). Conversely, the majority of teachers are female, as much as 84% (Feistritzer et al, 2011). This trend is seeing a slight change among agricultural education teachers in Georgia with a larger percentage of graduates being female (Georgia FFA, 2019).

Teacher Preparation Programs

Research shows that, on average, teachers scored below the national average on the SAT, and one in five lack the self-efficacy needed to be a successful classroom teacher (Stein & Stein, 2016). However, recent research has indicated that there is not as much of a correlation in today's teachers and their test scores (Darling-Hammond, 2000). Teacher preparation programs,

conversely, have a significant impact on self-efficacy and effectiveness (Darling-Hammond, 2000). There is also a noteworthy effect of the amount of content-specific classes and teaching preparation classes on teacher self-efficacy (Darling-Hammond, 2000).

Teacher preparation programs should prepare teachers for culturally diverse classrooms (Siwatu, 2011). The overall quality of a teacher preparation program has a direct correlation to the overall teacher self-efficacy (Knohloch & Whittington, 2002). The more prepared a teacher feels prior to entering the classroom, the higher the self-efficacy typically resulting in higher teacher retention (Ross, Cousins & Gadalla, 1996) However, since a prospective teacher does not know where he or she will be teaching, it is challenging to prepare them for similar demographics and communities in which they will be teaching (Siwatu, 2011). Lack of preparation in culturally diverse student populations that researchers are discovering a lack of teacher self-efficacy (Siwatu, 2011). Additionally, Kantrovich (2007) found only 53% of newly certified agricultural education teachers become enter the classroom after completed their undergraduate degree program and Roberts (2009) found that only 70% enter the workforce (Frost & Rayfield, 2020). Teacher preparation programs should determine why more of their students are not entering the profession after they graduate (Frost & Rayfield, 2020). This research will also assist in preparing quality teachers for the work force.

Mueller (2012) suggests that the focus to improve the educational system is to focus on the teacher preparation programs. The National Research Council (2000) created Figure 2.7 that shows what has an impact on Teacher Quality and Quality Teaching as it pertains to Science, Math, and Technology however; much of what is outlined can be applied to multiple disciplines. Research has also shown that the quality of the teacher is directly correlated to the success of students specifically in the area of test scores (National Research Council, 2000). Over 5 million

students were tracked and researchers could detect when students had quality teachers in a study that was conducted spanning multiple years (Sanders & Rivers, 1996; National Research Council, 2000).

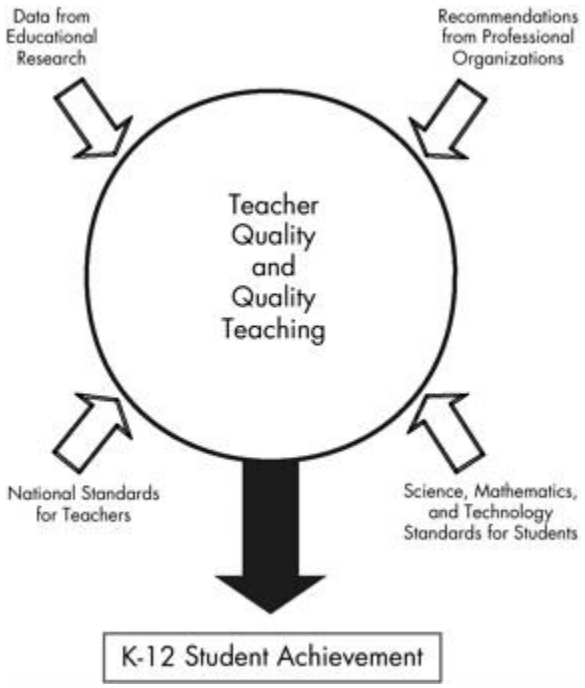

Figure 2.7 Factors that impact Teacher Quality and Quality Teaching by National Research Council, 2000 (p. 46).

National Association of Agricultural Education (NAAE) is spending extensive resources (including money and time) to recruit a variety of potential teachers to enter the profession to become teachers (Blackburn et al., 2017). However, less effort could be made if there were less turnover and that the majority of teachers would remain in the classroom after five years (Blackburn et al., 2017). On average, 20-50% of teachers leave the profession within five years (Hughes, 2012). In fact, over $2 billion is spent annually to recruit and train highly quality teachers (Hughes, 2012). Research also indicated that teachers that are highly qualified or performed high on college entrance exams are more likely to leave the profession (Hughes, 2012).

Due to the continual teacher shortage, it is imperative that teacher preparation programs develop teachers that are effective and willing to stay in the classroom (Swan, Wolf, & Cano, 2011). High teacher self-efficacy can decrease teacher burnout and increase teacher retention (Swan et al., 2011). Presently, the group that oversees the effectiveness of teacher preparation programs, The National Council for Accreditation of Teacher Education (NCATE), also grants and takes away accreditation for schools and school systems (Swafford, 2013).

Currently, teacher preparation programs have found that there is a divide between theory and practice, meaning that prospective teachers need more time teaching than learning the theories behind the how and why (Jenset, Klette, & Hammerness, 2017). In research conducted by Darling-Hammond et al. (2001), additional emphasis needs to be placed on allowing prospective teachers the opportunity to manage a classroom therefore giving them valuable experience once they enter their own classrooms. These methods of shifting the focus of teacher preparation programs indicate a significant growth in student learning (Jenset et al., 2017).

Typically, student teaching or pre-service teaching is conducted in the final semester of the undergraduate experience, leaving little room for reflection or the opportunity to take additional classes specific to the prospective teacher's needs (Franklin & Molina, 2012). Typically, student teaching is considered the culmination of most education programs (Borko & Mayfield, 1995; Edgar, Roberts, & Murphy, 2009; Frost & Rayfield, 2020; Smalley, Retallick, & Paulsen, 2015). Student teaching should be a high impact experience allowing student teachers the opportunity to experience real-world situations while having the support of a supervising teacher (Frost & Rayfield, 2020; Smith & Rayfield, 2017). Many student teachers are required to stay in the supervising teacher's hip pocket to ensure that they gain the full experience of balancing each of the parts of the three-component model (Frost & Rayfield,

2020). On average, the agricultural student teacher logs over 60 hours per week making the student teaching experience more stressful and taxing than other areas of teaching (Frost & Rayfield, 2020). Some teacher preparation programs have added an additional year to the average bachelor's program so that a potential teacher has an entire year of student teaching under their belt prior to them entering a classroom of their own (Franklin & Molina, 2012). However, other countries are looking into how to make adjustments to make pre-service teaching experiences more meaningful (Jenset et al., 2017). The higher a student teacher's self-efficacy is at the conclusion of their experience the longer they tend to stay in a classroom (Krysher et al., 2014).

McKinsey (2007) stated, "The quality of an educational system cannot exceed the quality of its teachers" (p. 16). Teacher preparation programs have become such a hot topic that policy makers are beginning to get more involved by trying to overhaul and reform the system (Mueller, 2012). Policy makers have wanted teachers that are highly qualified and prepared in order to disseminate and engage students (Berry, 2011). There has been much debate on whether traditional or alternative teacher preparation programs and to which is the most effective in order to prepare teachers (Mueller, 2012).

Research has found that teachers are resistant to change however, the present model in which we prepare teachers has not created the desired results (Carr, 2013). There is little documentation by state licensure agencies to prove whether certified or non-certified teachers are more effective within the classroom (Carr, 2013). Due to being a standards driven system, the educational system has drawn too much attention of being ineffective (Carr, 2013). Teachers must understand pedagogy along with their specific content area (Carr, 2013). As for agricultural education teachers, content ranges from agricultural mechanics to agricultural leadership, to

horticultural science, and livestock production. Due to the wide range of classes that an agricultural teacher could possibly teach the teacher preparation programs have to work diligently to prepare prospective teachers for various situations that they may encounter once they enter classrooms of their own.

Alternative Certification of Agricultural Science Teacher

Numerous researchers have indicated the importance of having properly trained teachers in the classrooms. In fact, research has indicated that in order to be an effective teacher, a prospective teacher must go through an accredited teacher preparation program (Linek, Sampson, Haas, Sadler, Moore, & Nylan, 2012). Currently, one can become a teacher through two means; first, through a teacher preparation program and alternatively, through a state dictated accreditation program for those who have a minimum of a bachelor's degree (Linek et al., 2012). The alternate teacher certification method was developed and created in order to assist in relieving the current issues with teacher shortages across the country (Zientek, 2006). There continues to be much debate as to which method is best however, many contend that the quality of instruction by alternatively certified teachers is compromised (Roth, 1986; Shulman, 1986; Watts, 1986; Kennedy, 1991).

Unfortunately, the latter of the two options put people in classrooms with little to no training on teaching methods and the pedagogy of teaching (Linek et al., 2012). In fact, one of the biggest inconsistencies between the two areas is the required coursework that one must complete in order to become a teacher through a traditional program (Bowling & Ball, 2018). Teachers that seek alternative certification do not have to complete student teaching or teaching pedagogy classes.

The United States Department of Education (2019) indicated that there is a shortage of teachers and that each year schools need more teachers due to retirement, attrition, and growing population (Thomas, Friedman-Nimz, Mahlios, & O'Brien, 2005). States started alternative certification programs to assist in the ever-growing teacher shortage (Hogan, 2010). Research has only indicated a few times where the self-efficacy of alternatively certified teachers was not as high as those who went through a traditional teacher certification program (Hogan, 2010).

Bills have been passed which mandate that adjustments to existing teacher certification programs be made in order to meet the rigor and high expectations in which schools are expecting (Hogan, 2010). Alternative certification for an agricultural education teacher looks very similar to that of an academic teacher (Bowling & Ball, 2018). In 2013, nearly 13% of new agriculture teachers were alternatively certified (Bowling & Ball, 2018). Presently there are over 130 different alternative certifications that a prospective teacher may use to become an agricultural teacher (Bowling & Ball, 2018). In Georgia, agricultural education teachers are certified through a program called TAPP and are held to the same standards as an academic teacher with no specification towards the three-component model (Georgia Department of Education, 2019).

Alternative teacher preparation or certification began when the shortage of teachers reached critical lows in the 1980's (Mueller, 2012). New Jersey and Virginia were among the first states to implement alternative certification in order to increase to amount of teachers (Mueller, 2012). During this time in these states, those who wanted to become teachers but did not attend traditional teacher certification programs were able to gain the alternative certification as long as they met certain requirements (Mueller, 2012). The Department of Education granted 47 states the ability to alternatively certify teachers in order to increase the numbers of teachers

in the classroom (Mueller, 2012). Presently, Alaska and Oregon do not have the option to alternatively certified (Mueller, 2012). Almost one-third of teachers across the country have some form of alternative certification (National Center for Alternative Certification, 2011). Some states have over half of new teachers entering the work force that have been alternatively certified (Mueller, 2012). In fact, since alternative certification has become a method to become a teacher over 500,000 people have become certified using the program (Feistritzer, Griffin, & Linnajarvi, 2011). Additionally, the majority of minority teachers have sought alternative certification (Mueller, 2012). Research indicated that alternatively certified teachers could reshape the educational system for years to come (Mueller, 2012).

Teacher Preparation Programs for Agriculture Teachers

Teacher education programs', specifically agricultural education teacher preparation programs', overall goal is to prepare and produce the highest quality teachers and for them to enter the classroom (Easterly, Stripling, & Myers, 2018). As few as 73% of graduates with an agricultural education degree in 2004 enter the classroom and many of those will leave within the first few years (Franklin & Molina, 2012). Due to the passage of the Smith-Hughes Act of 1917, agricultural education programs have continued to see growth of programs including moving into middle and even elementary schools (Easterly et al., 2018). In the early years, those who taught agricultural education lacked the pedagogical training that others had but that has progressed and is no longer an issue (Easterly et al., 2018). Mars (2016) indicated that agricultural educators make a significant impact on the overall agricultural economy and therefore should be trained in innovation and entrepreneurial development. Additionally, it is suggested in research conducted by Mars (2016) that teacher preparation programs spend a significant amount of time on lesson plans that are pre-designed, which encourages teachers to

be unwilling to change. Unfortunately, teacher preparation programs are not producing adequate amounts of teachers to enter the profession (Solomonson, 2017). Research conducted by National Agricultural Education Supply and Demand Study in 2017 indicated that there were 1,476 agricultural education positions open but only 772 first-year teachers entering the profession (Smith, Lawver, & Foster, 2017; Solomonson, 2017).

Just like NCATE, the National Standards for Teacher Education in Agriculture give additional assurance that agricultural education teacher preparation programs are meeting high standards (Swafford, 2013). Similarly, having two oversight groups to prepare agriculture teachers, they must take additional content classes that ensure that they are prepared to teach a variety of areas that often requires an additional year of classes (Swafford, 2013). Furthermore, field experience and in-service experiences (student teaching) are slightly different from what the average academic teacher receives (Swafford, 2013). One area that is of concern in preparing agricultural educators for the classroom is their lack of self-efficacy pertaining to classroom management (Wolf et al., 2009). The student teaching experience makes a significant impact on the self-efficacy of a future teacher therefore the supervising teacher should be a model for the prospective teachers (Lively, 1994).

One of the best ways to increase positive self-efficacy among novice teachers is for them to have a positive student teaching experience (Jones, Kelsey, & Brown, 2014). That positive experience is also directly related to the relationship that the student teacher and the cooperative teacher have (Jones et al., 2014). A prospective student teacher should be placed in and with the correct supervising teacher in order to promote the highest level of self-efficacy (Frost & Rayfield, 2020; Knobloch, 2006; Ronfeldt & Reininger, 2012; Whittington, McConnell, & Knobloch, 2006). Many teacher preparation programs work to ensure that personalities among

many other factors align so that the prospective teacher has the best possible experience (Jones et al., 2014). Furthermore, it is the student teaching experience that influences the overall retention of the potential agricultural educator (Foor & Cano, 2012).

As seen in Figure 2.8, the impact of the cooperating plays a role in retention and high self-efficacy of student teachers and potential teachers (Foor & Cano, 2012). Currently, within the state of Georgia the majority of agricultural education student teachers complete a twelve-week student teaching experience (Ricketts, 2009). Other states require varying degrees as deemed necessary by their Professional Standards Commission.

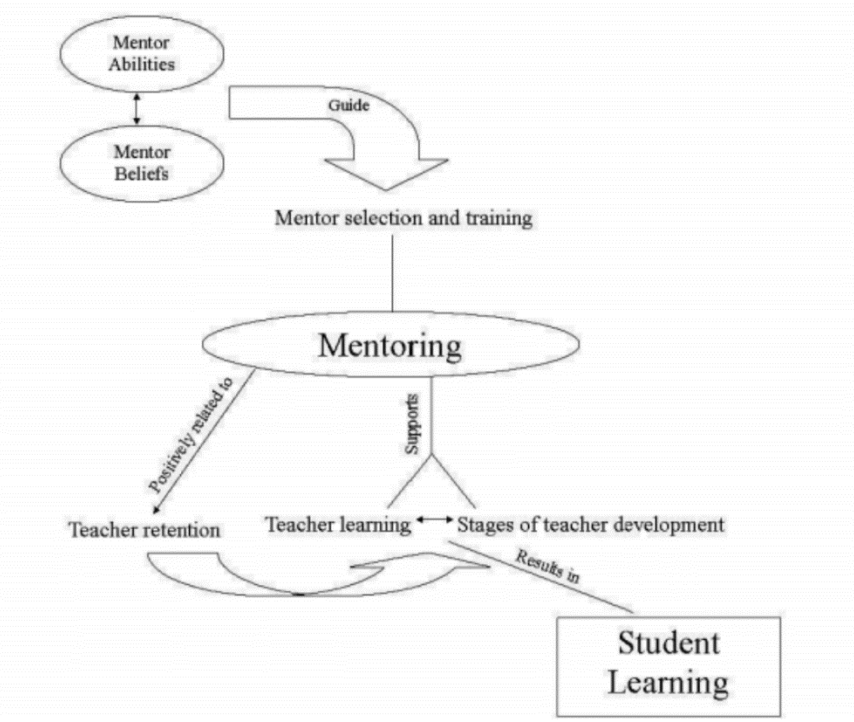

Figure 2.8 Mentoring program conventional framework by Foor & Cano (2012, p. 165).

Mars (2016) also suggests training in agricultural leadership, which includes training in "innovation and entrepreneurship to school-based agricultural education through the promotion

of non-formal learning opportunities" (p. 66). Research also indicated that the time between student teaching and entering the classroom is vital to the success of the teacher (Franklin & Molina, 2012). Teacher preparation programs must focus on this time to build their prospective teacher's self-efficacy along with proper training or professional development before entering the classroom (Franklin & Molina, 2012). Continuing education or professional development also plays a significant impact on the self-efficacy of a teacher (Darling-Hammond, 2000). However, the professional development or continuing education must be relevant and impactful in addition to the teacher feeling that it is beneficial to them (Darling-Hammond, 2000). Another notion that could be considered is the cohort model. Research indicated that the cohort model increases attrition and self-efficacy in teachers that normally have lower teacher self-efficacy (Darling-Hammond, 2000).

One suggestion is that state agencies get more involved in preparing their teachers to enter the classroom (Franklin & Molina, 2012). In fact, some states are adding mentor programs in which all first-year teachers must participate (Franklin & Molina, 2012). Research suggested that self-efficacy is higher during student teaching because of the mentor teacher, along with giving constant feedback and ways to improve teaching methods (Stripling et al., 2008). Conversely, many suggested that alternatively certified teachers have a better understanding of the content that they teach along and often times with real-world experience because they did not focus on pedagogy (Mueller, 2012).

While student teaching there is not a sink-or-swim mentality that a teacher has when entering their own classroom and they have the opportunity to experience a variety of experiences without the fear of complete failure (Stripling et al., 2008). The goal of AAAE (American Association of Agricultural Educators) is to focus on developing higher qualified

agricultural educators that are fully prepared to enter the classroom and balance the three circle component (Shoulders & Toland, 2017).

Agricultural education, is a multi-faceted teacher preparation program, often find it challenging to adequately prepare all prospective teachers for all the areas (Krysher et al., 2014). Various organizations and groups have been tasked with finding a solution to keeping agricultural education teachers in the classroom (Boone & Boone, 2009). In fact, National Council for Agricultural Education created the 10x15 plan to certify 2,500 highly qualified teachers in the mid-2000s (Boone & Boone, 2009). However, programs and states continue to add programs and grow, specifically in Georgia where we add approximately 10-20 new positions each year (Georgia FFA, 2019).

Summary

As the issue of teacher shortages specific to agricultural education continues to grow each year teacher preparation programs must prepare their students to become teachers that are willing to stay in the classroom. Prior to the opening of Abraham Baldwin Agricultural College agricultural education teacher preparation program with their first round of teachers entering the work force during the fall of 2019 there were always several job openings across the state.

In 2019, that all available positions were filled across the state and several of the graduates went to graduate school or decide to pursue other career options. When Georgia State Staff was asked, what they felt was one of the number one issues facing agricultural teachers today they responded that teachers do not know the content that they are expected to teach. Therefore, if teacher preparation programs were preparing their teachers then they would have higher self-efficacy, which would increase their longevity in the classroom. Teacher preparation reform needs to occur in order to better prepare teachers for the classroom. Unfortunately, no amount of

preparation or training can prepare a person for all the different scenarios that could occur during a teacher's time in the classroom. However, as education and society continue to change it is important to change how we are preparing our teachers.

This study focuses on Badura's (1986) Social Cognitive Theory, Bandura's (1997) Self-Efficacy Theory, Vroom's (1964) Expectancy Theory, and the Beginning Agriculture Teacher Assessment created by Wolf (2008). The self-efficacy of a teacher influences teacher retention and if teachers feel successful then they are more likely to stay in the classroom.

CHAPTER 3

METHODOLOGY

The purpose of this study was to determine the self-efficacy of teachers within their first year of teaching and determine if there was a correlation between perceived self-efficacy and teacher preparation programs. Within this chapter, the methodology is discussed and the instrument will be explained. This study utilized the instrument, Beginning Agriculture Teachers Assessment, developed by Dr. Wolf (2008).

Research Design

This study was a descriptive, census study of teachers in their first year of teaching agricultural education in Georgia. This study was a census and should not be a generalization of the teacher population. There were four threats to validity addressed in this study, sampling error, frame error, selection error, and a non-response error. Frame and selection error were controlled by utilizing a current and unduplicated list of teachers provided by the Georgia Department of Education. The list was then cross-listed with the Agricultural Education State Staff in order to ensure that contact information was correct. . Sampling error is not a concern, as this study was a census of all first year agricultural education teachers in Georgia. Non-response was combated by administering the Beginning Agriculture Teacher Assessment during a mandatory first year teacher workshop. However, if a teacher was not in attendance they were contacted through email and phone calls. The measurement error was controlled by using a reliable and valid instrument. The validity and reliability of the instrument was assessed by a panel of experts in the area of agricultural education (Wolf, 2008). Wolf (2008) also ensured the reliability of the instrument by conducting a Cronbach's alpha internal consistency reliability coefficient. Additionally, the researcher conducted a similar test to ensure the reliability.

Purpose of Study

The purpose of this study was to determine if there is a significant difference between where a teacher earned their certification and their perceived teacher self-efficacy. The results of this study could assist teacher preparation programs in better preparing prospective teachers prior to entering their own classrooms. Additionally, this study could determine the areas in which agricultural education teachers feel a lack of self-efficacy and to determine areas that state staff can provide professional development. That professional development can assist in increasing the overall self-efficacy of young teachers is therefore increasing retention.

Research Questions

RQ1: Is there a significant difference in self-efficacy between teachers who were certified through teacher preparation program at Abraham Baldwin Agricultural College, UGA-Tifton, UGA-Athens, Fort Valley State University, out-of-state programs and teachers who were certified through an alternative program for teacher certification?

RQ2: Is there a significant difference in the three domain areas (Classroom, SAE, and FFA) and where the teacher was certified?

H1: There is a significant difference in self-efficacy between teachers who were certified through traditional programs and teachers who were certified through alternative teacher certification programs.

RQ1 Null: There is no difference in self-efficacy between teachers who were certified through traditional programs and teachers who were certified through alternative teacher certification programs.

H2: There is a significant difference in the three domain areas, Classroom/Lab, FFA, SAE, and where the teacher was certified.

RQ2 Null: There is no difference among the three domain areas, Classroom/Lab, FFA, SAE, and where the teacher was certified.

Description of Population

The target population for this study will be all first-year agricultural education teachers in the state of Georgia. Participants were obtained through a list provided by the Georgia FFA Region Coordinators and the Georgia Department of Education. There were 33 respondents with a 54% response rate. 61 agricultural education teachers across the state of Georgia were asked to complete the Beginning Agriculture Teacher Assessment.

Description of Instrument

The research instrument, Beginning Agriculture Teacher Assessment , was created by Dr. Kattlyn Wolf (2008) to use in her dissertation to study the self-efficacy of first year teachers in Ohio. The Beginning Agriculture Teacher Assessment was used in its entirety; however, additional demographic questions were added. The Beginning Agriculture Teacher Assessment was developed utilizing a variety of sources that relate to agricultural education encompassing the three-component model (Duncan & Ricketts, 2006; Duncan, Ricketts, Peake, & Uesseler, 2005; Garton & Chung, 1996; Joerger, 2002; Myers, Dryer, & Washburn, 2005; Roberts & Dyer, 2004; Wolf, 2008). The instrument contains Instructional Strategies from the Ohio State Teacher Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001; Wolf, 2008). Due to agricultural education being complex, a simple self-efficacy model would not suffice to cover the different requirements (Wolf, 2008). Wolf (2008) developed the instrument to have will do questions instead of the can do.

The instrument is scaled to model the *Teachers Sense of Efficacy Scale* (Tschannen-Moran & Woolfolk Hoy, 2001; Wolf, 2008). This uses a nine-point summated rating scale and

teachers responded to items with their perceived capability (1=No Capability to 9= A Great Deal of Capability) (Tschannen-Moran & Woolfolk Hoy, 2001; Wolf, 2008). Wolf (2008) used an adaptation of the Borich (1980) needs assessment model. Additionally, teachers are asked to rate the level of importance in addition to their perceived self-efficacy (Wolf, 2008). Level of importance is measured also utilizing a nine-point summated rated scale (1=not important to 9=very important (Wolf, 2008). Wolf's (2008) reported reliability for each scale was overall 7.05, classroom 7.15, FFA 7.05, SAE 6.96. The demographic data did not require reliability reports.

After Murray Sate's Institutional Review Board (See Appendix A) granted approval of the study, the research began the process of data collection.

Data Security

Data was collected utilizing Survey Monkey with the exception of one survey, which was entered manually into the program. All information and data was kept on the researcher's computer. Information will be maintained for the specified amount of time. All personal information was removed from data and be placed into SPSS to run various tests as needed.

Procedures

Data was collected using Dillman's (2000) tailored design method, which consists of five elements: a respondent-friendly questionnaire, five contacts with the recipients, inclusion of a stamped return envelope, personalized correspondence, and a small token of appreciation sent with the instrument (Wolf, 2008). Previous research indicated that Georgia agricultural education teacher communicates primarily through email, therefore, the Beginning Agriculture Teacher Assessment was distributed through email (Anderson 2008). Emails were obtained through Agricultural Education Region Directors and the Georgia Agricultural education website

directory. Approval from the Institutional Review Board was sought; the research protocol was approved. Data was collected using the internet survey provider Survey Monkey, along with mailed questionnaires at the request of the participant. Only one agricultural education teacher requested a physical copy of the Beginning Agriculture Teacher Assessment.

The data was collected in the winter of 2019. The teachers were sent a personalized pre-notification email (See Appendix B) informing them that they would receive the link while attending the Mid-Winter Conference. Additionally, a hard copy of the instrument was made available while at the conference. A week following the conference, teachers will receive the instrument survey through Survey Monkey, consisting of cover letter (See Appendix C), and the instrument (See Appendix E).

Two weeks following the conference, participants who had not responded via email were sent the first reminder (third contact) notification from Survey Monkey (See Appendix F) with a reminder of the incentive. Ten days later (20 days after the initial contact), notification from Survey Monkey (See Appendix G), with a reminder of the incentive. The final reminder will be sent 30 days after the initial contact will be contacted by telephone (See Appendix H) to ensure that they received the questionnaire (sixth contact); a placement survey and cover letter will be sent to non-respondents.

Data Analysis

The data was collected through Survey Monkey and analyzed using the Statistical Package for Social Science Personal Computer version (SPSS v. 26). Both research objectives will be analyzed based on the data collected and the best method for that data. This study used the same format Dr. Wolf completed in her study (2008). Each of the domains, Classroom/Lab, FFA, SAE, were summed to analyze the data and any survey with more than 10 percent missing

items were excluded. Individual domains include classroom/lab, FFA, and SAE. Research objective was aimed to determine if a teacher preparation program affected a teacher's self-efficacy. Research objective two seeks to describe the self-efficacy of first-year agricultural education teachers in the three domains of classroom, FFA, and SAE.

Descriptive parameters were used to determine the answer to research question one: Is there a significant difference in self-efficacy between teachers who were certified through program Abraham Baldwin Agricultural College, UGA-Tifton, UGA-Athens, an out-of-state institution, and teachers who were certified through an alternative program for teacher certification. Respondents were asked to identify where and how they had earned their teaching certificate. This was compared to the overall self-efficacy score of each of the three domains. Then the self-efficacy was compared to what first year teachers feel is important as it relates to three different domains.

Summary

Chapter three outlined the methods and procedures conducted in this quantitative study as it pertains to the self-efficacy of first year agricultural education teachers within the state of Georgia. The research methods employed the use of Dillman's (2002) Tailored Design Method for the internet and mail surveys. Threats to validity were discussed and addressed, methods and procedures were outlined. A description of the Beginning Agriculture Teacher Assessment has been outlined, data was collected utilizing a secure platform, and analysis was performed. Chapter four will provide a detailed account of the data, and provide a discussion of the results along with recommendations in Chapter 5.

CHAPTER 4
FINDINGS

Data Collection

Previous chapters introduced the problem, outlined the theoretical framework, and provided literature related to the study. Methods and procedures were previously outlined and this chapter will provide the results provided from the Beginning Agriculture Teacher Assessment presented to first-year agricultural education teachers within Georgia. Each of the objectives were evaluated and demographics of the respondents have been measured. Data was collected utilizing the Beginning Agriculture Teacher Assessment created by Katlyn J. Wolf (2008) for her dissertation at Ohio State University. The Beginning Agriculture Teacher Assessment is based on research and concerns from Bandura (2006) and allows for a more comprehensive understanding of self-efficacy of agricultural education teachers based on the three-component model (Phipps, Osborne, Dyer & Ball, 2008; Wolf, 2008).

The Beginning Agriculture Teacher Assessment created determines the inconsistencies between general self-efficacy and the self-efficacy of an agricultural educator (Wolf, 2008). The Beginning Agriculture Teacher Assessment was designed for additional studies to be conducted on agricultural educator self-efficacy (Wolf, 2008). This study was limited to first year agriculture teachers in Georgia.

A list of the first-year agricultural education teachers across the state of Georgia was obtained from the Georgia Department of Education Agricultural Education Regional State Staff Coordinators. There is a total of N=61 first year teachers for the 2019-2020 school year in agricultural education in the state of Georgia. Each of the 61 teachers were sent a personalized pre-notification email (See Appendix B) explaining the Beginning Agriculture Teacher Assessment and that it would be given during the first-year teachers meeting during the Georgia

Vocational Agricultural Teachers Association Mid-Winter Meeting held January 18-19, 2020 at the Georgia FFA-FCCLA Center in Covington, Georgia.

The Beginning Agriculture Teacher Assessment was administered digitally or through a paper copy. Sixty-one emails were sent to each of the first-year teachers across the state of Georgia. On January 13, 2020, first year teachers were given an electronic mailing; which included the cover letter (See Appendix C), the instrument (See Appendix E) and notification of a small token of appreciation at the conclusion and submission of the survey. First year teachers were also given the opportunity to pick up a paper copy of the survey during the Mid-Winter Meeting. One teacher requested a paper copy of the Beginning Agriculture Teacher Assessment. First year teachers were also provided with a QR code in the event that their school systems servers blocked the email.

On January 29, 2020, non-respondents were sent a reminder email through Survey Monkey (See Appendix F). On February 1, 2020, 28 responses (27 internet and one paper copy) (49%) were recorded through Survey Monkey. On, March 1, 2020, the final reminder was sent out to non-respondents. On March 15, 2020, non-respondents were contacted via telephone (See Appendix G). Thirty-three responses were received by March 30, 2020. The on-time respondents were those who responded on or before March 15, 2020 (n=33). Two respondents' data was excluded due to incomplete (more than 10%) survey responses.

Twenty-four of the respondents (77%) were female and seven (22%) were male (Table 4.1). Out of the 31 respondents, all but one (96%) plan to continue teaching in the 2020-2021 school year. Fourteen respondents (45%) attended Abraham Baldwin Agricultural College (Program A), three respondents (9.7%) attended the University of Georgia-Tifton Campus (Program B), five respondents (16%) attended the University of Georgia-Athens Campus

(Program C), two respondents (6.5%) attended Fort Valley State University (Program D), three respondents (9.7%) attended a school outside the state of Georgia, and four respondents (13%) are currently seeking alternative certification (Table 4.2)

Table 4.1
Summary of Respondents Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	24	77.4	77.4	77.4
	Male	7	22.6	22.6	100.0
	Total	31	100.0	100.0	

Table 4.2
Summary of Teacher Preparation Programs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Abraham Baldwin Agricultural College	14	45.2	45.2	45.2
	UGA-Tifton	3	9.7	9.7	54.8
	UGA-Athens	5	16.1	16.1	71.0
	Fort Valley State University	2	6.5	6.5	77.4
	Alternative Certification	4	12.9	12.9	90.3
	Out of State Institution	3	9.7	9.7	100.0
	Total	31	100.0	100.0	

Reliability was insured by running the Cronbach's Alpha test the Beginning Agriculture Teacher Assessment earned a .896 (Table 4.3). According to Yockey, (2018) a score of .896 is considered "Good". This test ensured there is a greater internal consistency among the Beginning Agriculture Teacher Assessment and those that took the survey, which ensures the reliability (Yockey, 2018).

Table 4.3
Reliability Statistics

Cronbach's Alpha	N of Items
.896	3

Results for Research Question 1: Is there a significant difference in self-efficacy between teachers who were certified through teacher preparation program at Abraham Baldwin Agricultural College, UGA-Tifton, UGA-Athens, Fort Valley State University, out-of-state programs and teachers who were certified through an alternative program for teacher certification?

Respondents to the Beginning Agriculture Teacher Assessment are first year agricultural education teachers within the state of Georgia. Only four respondents (13%) indicated that they were seeking alternative certification. An ANOVA test was ran and indicated no significance between the teacher's self-efficacy and the teacher preparation program (Table 4.4). In Table 4.4, the p-value is .230. According to Yockey, the p-value or Sig. is less than .05 and therefore, the null hypothesis of there being no correlation between the teacher preparation program and the self-efficacy of teachers is not rejected (2018). Both the Tukey and Gnomes Howell tests were conducted and found no correlation between teacher preparation programs (Independent Variable) and Teacher Self-Efficacy (Dependent Variable). The Tukey test was conducted even though there was no significance as to better display the pairs of groups that was analyzed (Yockey, 2018). The Tukey test compared where received their teacher certification against each of the domains (classroom/lab, FFA, SAE). Games-Howell test was also performed, although similar to Tukey, it compares all possible combinations and this test indicated no significance further not rejecting the null hypothesis (Yockey, 2018). The Games-Howell does not assume equal variance or sample sizes therefore, is preferred over the Tukey (Yockey, 2018).

Table 4.4
Correlation between Self-Efficacy and Teacher Preparation Programs

Self-Efficacy

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.767	5	.953	1.486	.230
Within Groups	16.044	25	.642		
Total	20.812	30			

Results for Research Question 2: Is there a significant difference in the three domain areas (Classroom, SAE, and FFA) and where the teacher was certified?

Agricultural education self-efficacy was assessed using the instrument created by Dr. Wolf utilizing the three domains: Classroom, SAE, and FFA. The first year teacher respondents reported an overall average of 6.955 for Overall Perceived Self-Efficacy of First Year Teachers (Table 4.5). The highest level of self-efficacy was in the area was in Classroom (AVG 7.63) while the lowest was Supervised Agricultural Experience projects (AVG 6.92). As Agricultural Education was built around the three-component model, Wolf created this Beginning Agriculture Teacher Assessment to encompass all three areas to determine where teachers felt the highest levels of self-efficacy (2008). Responses range from 1= No Capability to 9= A Great Deal of Capability (Wolf, 2008).

Table 4.5
Overall Perceived Self-Efficacy of First-Year Teachers

	N	Minimum	Maximum	Mean	Std. Deviation
SE	31	4.71	8.20	6.9555	.83290
Valid N (listwise)	31				

The three areas that had the highest reported levels of self-efficacy were teacher's capability to; Utilize computers within lessons, advising FFA meetings, and supervising students on FFA trips and activities. Conversely the three areas that respondents had the lowest or low capabilities included: managing an agricultural mechanics laboratory, assisting students in proficiency preparation, and utilizing FFA alumni.

Perceived self-efficacy in the classroom domain

In the classroom domain, the overall perceived self-efficacy was 7.63. The three highest areas within this domain included: creating lesson plans, constructing good questions for students, and conducting field trips. However, respondents indicated that these three areas are where they are not as confident in motivating students to learn, manage student behavior, adjust lessons for individual students, and managing laboratories such as agricultural mechanics. See Table 4.6

Table 4.6
Classroom Domain: What is your level of capability to:

	N	Minimum	Maximum	Mean
	Statistic	Statistic	Statistic	Std. Error
To motivate students to learn	32	4	9	.248
To manage student behavior	32	3	9	.286
To use a variety of teaching techniques	32	3	9	.281
To teach students to think critically	32	2	9	.318
To create lesson plans for instruction	32	2	9	.314
To respond to difficult questions from students	32	2	9	.256
To craft good questions for my students	32	2	9	.283
To adjust lessons for individual students	32	2	9	.297
To evaluate student learning	32	3	9.	.272
To use a variety of assessment strategies	32	4	9	.215

To provide alternative explanations when students are confused	32	4	9	.244
To implement alternative strategies in my classroom	32	3	9	.279
To provide appropriate challenges for very capable students	32	1	9	.341
To teach students with special needs	32	2	9	.361
What is your level of capability to utilize computers in my teaching	32	3	9	.325
What is your level of capability to utilize multimedia in my teaching	32	1	9	.372
To manage a horticulture laboratory/greenhouse	32	1	9	.366
To implement a curriculum in agriculture	32	3	9	.26
To manage an agricultural mechanics laboratory	32	1	9	.347

Perceived self-efficacy in the FFA domain

In the FFA domain, the overall perceived self-efficacy was 7.2. The three highest areas within this domain included: planning activities, recruiting FFA members, and supervising students on trips. However, respondents indicated that these areas they were less confident included utilizing an alumni and advisory board along with preparing applications for degrees and proficiencies. This is outlined in Table 4.7.

Table 4.7
FFA Domain: What is your level of capability to:

	N	Minimum	Maximum	Mean
	Statistic	Statistic	Statistic	Std. Error
To effectively conduct field trips	32	1	9	.389
To advise FFA meetings	31	5	9	.276
To train an FFA Chapter Officer Team	32	3	9	.295
To assist students in planning FFA chapter activities	32	4	9	.256
To assist students in planning FFA banquets	32	1	9	.335

To assist students in facilitating student fundraising activities	32	1	9	.344
To assist students in preparing FFA degree applications	32	1	9	.346
To assist students in preparing FFA proficiency applications	32	1	9	.39
To assist students in preparing a Program of Activities	32	1	9	.336
To coach leadership based (Eg. Parliamentary Procedure, Speaking) CDE teams	32	2	9	.283
To coach skills based (Eg. Evaluation, Ag Mech, etc) CDE teams	32	4	9	.241
To utilize FFA Alumni	32	1	9	.402
To assist students in recruiting FFA members	32	4	9	.297
To utilize Program Advisory Board	32	1	9	.374
To recruit FFA members	32	4	9	.288
To assist students in developing effective public relations program for the FFA Chapter	32	1	9	.314
To supervise students during FFA trips and activities	32	4	9	.197
To assist students in developing community service projects	31	4	9	.241

Perceived self-efficacy in the SAE domain

In the SAE domain, the overall perceived self-efficacy was 6.21. The three highest areas within this domain included: motivating students to have an SAE, developing SAE opportunities, and recommending SAE opportunities for students. However, respondents indicated that these areas they were less confident in: keeping SAE records, supervising production and entrepreneurship SAEs. This is outlined in Table 4.8.

Table 4.8
SAE Domain: What is your level of capability to:

	N	Minimum	Maximum	Mean
	Statistic	Statistic	Statistic	Std. Error
To provide career exploration opportunities for students	32	4	9	.273
To develop SAE opportunities for students	32	3	9	.34
To motivate students to have an SAE	31	2	9	.345
To supervise student entrepreneurship SAE programs	32	1	9	.352
To supervise student placement SAE programs	32	1	9	.325
To supervise student production SAE programs	32	1	9	.34
To conduct home/SAE visits	32	2	9	.361
To make recommendations for students' SAE projects	32	5	9	.202
To utilize resources to make recommendations to students' SAE projects	32	1	9	.313
To assist students in keeping SAE records	32	3	9	.266
To utilize the community to develop SAE opportunities for students	32	3	9	.327

Summary

Although this research indicated that, there was no relationship between the various teacher preparations programs and teacher self-efficacy additional research should be conducted to ensure that the teacher preparation programs are providing equal education opportunities for future teachers. Additional focus needs to be placed on preparing future agricultural education teachers to supervise and prepare students in the area of Supervised Agricultural Experience projects. Pre-service teachers should spend time prior to student teaching working with teachers

near the teacher preparation program. Prospective teachers should work alongside teaching professional in an observation setting in order to understand and be well versed in this part of the three-component model. Focusing additional hours prior to becoming a teacher in the domain area of SAE should increase the self-efficacy of young teachers.

Within the area of the classroom domain, additional training needs to focus on the areas in which the teachers demonstrated the lowest areas of self-efficacy. Focus should be placed on modeling correct teaching methods that would allow future teachers the chance to be exposed to various styles. Additionally, prospective teachers should be placed in lab settings with experienced teachers and be required to complete a specific amount of observational hours in order to have a better grasp as to how labs and shops should be run and conducted in a safe manner.

Teachers spend a significant amount of time within the classroom. However, an agricultural education teacher must balance all three of the components in order to have a successful program. Agricultural education teachers have to manage and maintain a variety of activities.

CHAPTER 5

CONCLUSIONS/RECOMMENDATIONS/IMPLICATIONS

The frame for this study was first-year agricultural education teachers within the state of Georgia. “Numerous challenges continue to face the agricultural education profession, but none more important than the preparation and provision of qualified teachers” (Eck & Edwards, 2019, p. 235). The teachers earned their certification from several different institutions from across the state and several obtained alternative certification or had received their teacher training from an institution from outside the state of Georgia. Institutions within the state of Georgia include Abraham Baldwin Agricultural College, UGA (Athens and Tifton Campuses), and Fort Valley State University. The Georgia Department of Education identified 66 first year teachers within the area of agricultural education for the 2019-2020 school year. Contact information was confirmed by the area directors of agricultural education within the state of Georgia to ensure accurate information.

Data was collected using Beginning Agriculture Teachers Assessment created by Dr. Wolf, which, was created for her dissertation at Ohio State University (2008) to give a deeper look at the self-efficacy of agricultural education teachers. She stated that an instrument was needed specific to agricultural education in which all three of the areas that encompass the three-circle component were evaluated (2008). Those areas include SAE, Classroom/Lab, and FFA (Phipps, Osborne, Dyer & Ball, 2008; Wolf, 2008). The Beginning Agriculture Teacher Assessment was created utilizing three domains, which identified a comprehensive list of job related factors that were relevant to agricultural education (Duncan & Ricketts, 2006; Duncan, Ricketts, Peake, & Uesseler, 2005; Garton & Chung, 1996; Joerger, 2002; Myers, Dyer, & Washburn, 2005; Phipps, Osborne, Dyer & Ball, 2008; Roberts & Dyer, 2004; Wolf, 2008).

Wolf (2008) created the Beginning Agriculture Teacher Assessment and it includes Bandura's (2006) research of how to effetely measure a teacher's self-efficacy. Wolf (2008) mentions that along with Bandura (2006) it is not applicable to assume that there is a "one measure fits all" when measuring the self-efficacy of different teachers.

Summary of Conclusions for Research Question 1

Is there a significant difference in self-efficacy between teachers who were certified through teacher preparation program at Abraham Baldwin Agricultural College, UGA-Tifton, UGA-Athens, Fort Valley State University, out-of-state programs and teachers who were certified through an alternative program for teacher certification?

There was no correlation between a teacher's self-efficacy and the teacher preparation program that the respondents attended. This indicated that each of the teacher preparation programs in Georgia preparing agricultural educators are on similar playing fields and are preparing adequate teachers. However, it would be advantageous to survey teachers for each of the programs to ensure that the data remains similar over time. The teachers that responded to the survey indicated that they were overall confident in most areas. There was a slight significance in the self-efficacy and respondents seeking alternative certification. Had there been additional respondents then there may have been a more evident correlation.

Each of the colleges and universities offer differing settings. Abraham Baldwin Agricultural College is located in rural South Georgia. Many of the classes there ensure that students receive hands on training in classes that are application based. Presently, there is just under 4,000 students enrolled. UGA-Tifton is less than a mile away from ABAC. There is a significant amount of research conducted there as is doubles at that region's Experiment Station. Many of the classes that potential teachers take there are taught by those researchers therefore,

giving in-depth content knowledge. UGA-Athens is an established Land Grant University with almost 39,000. Although Athens is located in, the smallest county in Georgia there is a significant population with a substantial amount for students to engage. The UGA-Athens campus provides multiple methods classes such as Horticulture for Teachers, Forestry for Teachers, Floral Design for Teachers. These classes provide not only content but also a better understanding for teachers how to present content to classes. Fort Valley State University is located in Central Georgia in a rural community. It has a little over 2,300 students. Each of these programs, ABAC, UGA-Tifton, UGA-Athens, and FVSU are all traditional teacher preparation programs. They are all 4-year Bachelors of Science Programs. They require everyone within the program to maintain a minimum grade point average; prospective teachers must complete a minimum 12-week student teaching experience, and complete the edTPA program outline by the Georgia Professional Standards Commission.

Another limitations is that nearly half (45%) of the respondents were graduates from Abraham Baldwin Agricultural College. This could be due to the amount of graduates that entered the workforce in the fall of 2019. Twenty-two Abraham Baldwin Agricultural College entered the agricultural education teaching profession as first year teachers.

Summary of Conclusions for Research Question 2:

Is there a significant difference in the three domain areas (Classroom, SAE, and FFA) and where the teacher was certified?

A significant amount of time is spent preparing prospective teachers for the classroom. Between pedagogy classes and methods classes taken during prospective teachers' undergrad ranges between the schools however, it could indicate why the self-efficacy is higher in the

classroom domain. Additionally, observation hours and student teaching is aimed to give prospective teachers additional resources and experience within the classroom.

FFA is seen as the fun domain. Most agricultural education teachers and students enjoy the comradery that is part of FFA (Wolf, 2008). Many agricultural education teachers that enter the profession have a background by being in FFA and a part of agricultural education prior to becoming a teacher (Kennedy, 2009). Perhaps, a teacher's success in the FFA domain is what makes their self-efficacy higher among this domain.

Some reasons that the Supervised Agricultural Experience component may rank the lowest is because of the requirements. In the state of Georgia, agricultural education teachers must provide 10 home visits each month for their students (See Appendix J). This is a significant time requirement in addition to visiting a variety of student's homes. The National FFA Organization (2019) has created "SAE for All" which has creating new requirements and allowing more variety among projects.

First year teachers that responded to this study were efficacious in each of the three domains (classroom/lab, FFA, SAE). Teachers indicated that they were least efficacious in the area of the Supervised Agricultural Experience. The specific area that showed the least amount of self-efficacy was the requirement of teachers doing home visits to supervise the SAE projects. Additionally, their self-efficacy in the classroom domain was low in managing labs in greenhouses and agricultural mechanics, and utilizing FFA alumni. Within the FFA domain, teachers indicated lower levels of self-efficacy in preparing students for the State FFA Degree and helping students with proficiency applications. This could be because it is hard to replicate each of these situations in college classrooms and often-supervising teachers are not as willing to share "how-to" during student teaching.

Data indicated that teachers are more efficacious in the classroom and less efficacious in the SAE domain. Additional profession development could benefit young teachers to increase the self-efficacy within the SAE domain. Information will be shared with teacher preparation programs and the Georgia Vocational Association of Agricultural Educators in hopes that teachers will receive additional training. Supervised Agricultural Experience component of the three-component model requires several different things from an agricultural education teacher. First, teachers are required to complete home visits of their students. Teachers should complete 10 visits per month (Georgia Agricultural Education, 2019). Additionally, each student enrolled within an agricultural class with will manage and maintain accurate records of their SAE project to be submitted to their teacher (Georgia Agricultural Education, 2019). Teachers are required to have a minimum of one proficiency application in a National FFA Approved area (Georgia Agricultural Education, 2019). These are considered the minimum amount required by teachers within the state of Georgia.

Recommendations/Discussion

Almost all of the respondents intend to continue teaching in the 2020-2021 school year. The high levels of self-efficacy could be contributed to the high levels of retention of each of these teachers. Agricultural education within Georgia could benefit from a mentorship program, which may increase retention throughout the profession. In 2019, with the addition of Abraham Baldwin Agricultural College graduating its first and largest graduating class of agricultural educators in the southeast, 26 graduate and all but two entered the classroom (ABAC, 2019).

This study however does not align with the retention issues that agricultural education is experiencing nationally (Camp, Broyles, & Skelton, 2002; Kantrovich, 2010; Smith et al., 2017; Solomonson, 2017). In fact, some research indicated as much as 41% of teachers will leave the

profession within the first five years (Ingersoll, Merrill, & Stuckey, 2014; Solomonson, 2017). With the addition of Emmanuel College having an agricultural education degree program in the fall of 2020 hopefully, the state of Georgia will not continue to see a shortage of highly qualified agriculture teachers.

The Beginning Agriculture Teacher Assessment should be used to track self-efficacy of teachers in years five and ten of teaching to determine where those teachers feel that they could use professional development or training to ensure that they remain in the profession. Often research is conducted in the early years of teaching but perhaps additional research should be conducted for teachers in the middle of their careers and prior to retirement. Additional data collection at these key points in an educator's career can help determine retention and professional development to ensure a teachers continued success.

Data in within this research does indicate that teachers are not efficacious in the area of Supervised Agricultural Education however; the data (average of 7.75) indicated that the area does have significant importance as it relates to job related factors. This was also similar in the study that was conducted by Dr. Wolf (2008). Additional support is needed within teacher preparation programs so that teachers have a higher self-efficacy within this area. Specifically, teachers feel the least confidence conducting the required home visits. In Georgia, it is encouraged to do ten home visits each month to monitor students SAE projects. Teachers rated FFA the most important domain it was not the domain that teachers had the highest level of self-efficacy. Teachers indicated that they have low self-efficacy in preparing applications for State FFA Degrees and Proficiency Applications. Therefore, additional emphasis should be placed on the area of student SAE projects and preparing applications within teacher preparation programs across the state. Research conducted at Oklahoma State University suggests that more

opportunities be given to student teachers in order to prepare them for their time within the classroom (Robinson, Krysher, Haynes, and Edwards, 2010). Additionally, this is also recommended in the study conducted by Wolf (2008). Swortzel (1996) conducted a study of Tennessee agricultural education teachers and found that teachers that were part of a multi-teacher department had higher levels of self-efficacy compared to single teacher departments. Leising and Zilbert (1985) conducted research among California teachers and found placing a grade on SAE projects encouraged more student engagement. Wilson and Moore (2007) evaluated teachers' perceptions of SAE projects and felt that it was challenging because of student perceptions and time restraints.

If the National FFA Organization wants significance divided, equally among the three-component model perhaps less emphasis should be placed on applying and winning proficiency areas. These 41 areas are deemed "quality" SAE projects while anything else is considered "sub-par" (Georgia Agricultural Education, 2019). In order for this component to be teachers that are more successful must meet the needs of their students and ensure that they are engaged in the steps of the project (Barrick, Arrington, Heffernan, Hughes, Moody, Ogline, & Whaley, 1992). The SAE project is an opportunity to align classroom instruction with the needs of the students, the community, and employers (Phipps et al., 2008). Nine requirements were developed for an SAE project as a student selects their project in order to be successful (Barrick et al., 1992). Agricultural education teachers need to understand that not every student entering an agricultural class will have an SAE project topic in mind (Phipps et al., 2008).

Teachers were most efficacious in the classroom domain and is ranked the second most important therefore; no additional support is needed within this area based on the Beginning Agriculture Teacher Assessment. A significant amount of time is spent during teacher

preparation programs on the classroom aspect and ensuring that teachers are prepared to enter the classroom prepared. In fact, in Georgia student teachers must complete various videos addressing specific standards due to an "era of accountability" (Kissau, Hart, & Algozzine, 2018). edTPA has the goal to evaluate student teachers prior to them entering the classroom therefore ensuring that the level of preparedness for the classroom meets minimum standards (Kissau, et al., 2018). Conversely, the amount of time spent on preparing teachers should not decrease because teachers feel efficacious. However, it was recently released that edTPA will no longer be a requirement for teachers starting with those student teaching in the fall of 2020 (Valdosta Today, 2020). This could influence the self-efficacy of teachers in the future. The majority of the career is spent within the classroom setting reaching more students than that of the individuality of the SAE or small groups within the FFA setting. One concern that has been addressed by various stakeholders is the importance of embracing and changing the method in which to teach an ever-changing industry such as agriculture.

Implications

This instrument will continue to assist researchers in their abilities to collect data as it pertains to the self-efficacy of agricultural education teachers. Although all three domains were deemed important by the respondents it is concerning that Classroom Instruction was not ranked the highest. Similarly, in Wolf's (2008) study respondents ranked FFA as the most important. Many agricultural education teachers feel that FFA is the reason for teaching agriculture and therefore should be the focus of agricultural education (Newcomb, McCracken, Warmbrod, and Whittington, 2004; Wolf, 2008). Wolf (2008) indicated that FFA should be integral but not the driving force. Hence, the reason that the three-component model has all three domains of equal

size is because the National Association of Agricultural Educators hopes that teachers are spending equal amounts of time within each of the areas (2019).

Further research could be conducted as to why teachers ranked SAE and Classroom lower than the classroom domain. Another aspect of interest could be the levels of present females among agricultural educators. Out of the responding teachers that entered the agricultural education classroom in the fall of 2019, 77% were female while, agricultural education has been a traditionally male dominated profession (Wolf, 2008). This study indicated the majority (96%) of the respondents plan on returning to the classroom during the 2020-2021 school year. There is extensive research that indicated that teachers leave early in their career however; because of the high levels of self-efficacy, perhaps this group of teachers feel better prepared. Additional research could be conducted to determine why the respondents that are not returning to the profession.

Agricultural education teachers in Georgia are on an Extended Day/Extended Year contract. Extended Day indicates that agricultural education teachers will work an additional hour each day. The Extended Year component various from an 11 month or 12 month contract. This additional time requirement could be a cause to agricultural education teachers to leave the classroom. In the spring of 2019, 30 teachers left their current position as an Georgia agricultural education teacher (Georgia FFA, 2019).

Needs for Further Study

1. Studies of teachers at different points of their career to determine the self-efficacy.
2. Studies of teachers in other states to determine their self-efficacy.
3. Why individuals leave the profession.
4. Qualitative studies over each of the domains to determine the needs of teachers.

5. Importance of the teacher preparation programs.
6. Implications of pre-service teaching.
7. Professional development needs of teachers.

P-20 Implications

There are excellent life-long learning opportunities among each of the colleges and universities. Having the prospective teachers making early connection with established teachers in and around communities with teacher preparation programs establishes and builds relationships. Furthermore, present agricultural education teachers need and should be working with present students recruiting future agricultural education teachers and encouraging them to find a teacher preparation program. This study also identifies the needs of present agricultural education teachers and potential opportunities for professional development. An outcome of this study was determining what young teachers need in the formative years. Additionally, it is important that current agricultural education teachers are consistently giving back to the profession.

Summary

Although the data indicated that teachers within their first year of teaching have high levels of self-efficacy, it is important to continue high levels of training in order to prepare them for the classroom. The three-component model makes agricultural education a little more challenging than that of other discipline areas. Agricultural education continues to grow within the state of Georgia and as it grows so do the opportunities for positions across the state. On average, the teacher population in Georgia grows by 25 teachers each year (Georgia Agricultural Education, 2019). According to research, the majority of teachers are within the first five years of teaching and will continue to rise, as veteran teachers will come closer to retirement in the

coming years. Agricultural education teachers have more tasks than the average content specific teachers do (Walker, Garton, & Kitchel, 2004; Talbert, Vaughn, Croom, & Lee, 2007; Atkinson, 2020). Lack of support in the SAE area can have a negative impact on overall teacher retention (Greiman, Walker, & Birkenholz, 2005).

According to Georgia Agricultural Education (2019) there are approximately 50 teachers across the state with more than 26 years of teaching experience. This eludes to the fact that over the next five years in addition to the new programs created 50 different teachers will have the opportunity to retire opening that many positions. As the agricultural education program continues to grow across the state, the teacher education programs must continue to produce high quality professions ready to enter the classroom.

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APPENDIX A
IRB Approval

MURRAY STATE UNIVERSITY

Institutional Review Board

328 Wells Hall
Murray, KY 42071-3318
270-809-2916 • msu.irb@murraystate.edu

TO: Teresa Clark, Educational Studies Leadership and Counseling

FROM: Jonathan Baskin, IRB Coordinator JB

DATE: 11/26/2019

RE: Human Subjects Protocol I.D. – IRB # 20-089

The IRB has completed its review of your student's Level 1 protocol entitled *Impact of Teacher Training Programs in Georgia on the Self-Efficacy of Agricultural Education Teachers in Their First Year*. After review and consideration, the IRB has determined that the research, as described in the protocol form, will be conducted in compliance with Murray State University guidelines for the protection of human participants.

The forms and materials that have been approved for use in this research study are attached to the email containing this letter. These are the forms and materials that must be presented to the subjects. Use of any process or forms other than those approved by the IRB will be considered misconduct in research as stated in the MSU IRB Procedures and Guidelines section 20.3.

Your stated data collection period is from 1/5/2020 to 5/1/2020.

If data collection extends beyond this period, please submit an Amendment to an Approved Protocol form detailing the new data collection period and the reason for the change.

This Level 1 approval is valid until 11/25/2020.

If data collection and analysis extends beyond this date, the research project must be reviewed as a continuation project by the IRB prior to the end of the approval period, 11/25/2020. You must reapply for IRB approval by submitting a Project Update and Closure form (available at murraystate.edu/irb). You must allow ample time for IRB processing and decision prior to your expiration date, or your research must stop until such time that IRB approval is received. If the research project is completed by the end of the approval period, then a Project Update and Closure form must be submitted for IRB review so that your protocol may be closed. It is your responsibility to submit the appropriate paperwork in a timely manner.

The protocol is approved. You may begin data collection now.

APPENDIX B
PRENOTICE EMAIL

PRENOTICE EMAIL

Dear <Name> January 5, 2020

During the annual GVATA Mid-Winter conference, you will receive a request by email to complete a questionnaire about your perceived teacher self-efficacy of your first year teaching. This survey will encompass all three components of your job. You have been identified by the Georgia Agricultural Education State Staff as a first year teacher.

I am contacting you in advance for two reasons: 1. to provide notice that the questionnaire will be delivered using the secure internet survey provider Survey Monkey, and 2. provide you with the opportunity to request a mailed copy of the questionnaire.

You will find the link to the questionnaire in the email that I will send out the morning of Mid-Winter. If you would like a mailed/hard copy, please notify me by email at cpollard@murraystate.edu and provide me with your mailing address.

This research project will provide important information about your first year in the classroom and allow key people to develop appropriate professional development. Your participation is invaluable. Additionally, there will be a small incentive upon completion of the questionnaire.

Thank you for your time,

Catrina K. Pollard

Murray State University

APPENDIX C

COVER LETTER

COVER LETTER

Dear <Name> January 5, 2020

You have been identified as first year agricultural education teacher in the state of Georgia. You are being asked to voluntarily participate in a research study about your perceived self-efficacy. This research study is intended to assess your perceptions as an agricultural education teacher in their first year.

Your responses to this questionnaire will greatly assist in improving teacher preparation programs and professional development provided by the Department of Education and Georgia Vocational Agricultural Teachers Association. There are no known risks to your participation in completing this questionnaire. Your participation is voluntary. You may answer some or none of the questions. Your results will be kept confidential; your name will be in no way associated with your responses.

You will receive a small token of appreciation for completing the questionnaire that will be mailed to an address of your choice.

If you have any questions concerning your rights as a research subject, you may call Murray State University. Completing this questionnaire implies that you are giving permission to use your responses for research purposes.

Thank you for your time,

Catrina K. Pollard

Murray State University

APPENDIX D

QUESTIONNAIRE AND COVER LETTER

Dear Agricultural Educator,

You are being asked to voluntarily participate in a research study. This study is intended to assess your perception of you first year in the classroom. Your responses to this questionnaire will greatly assist in improving teacher preparation programs and professional development opportunities. The questionnaire will take approximately 15 minutes to complete. There are no known risks to your participation and it is voluntary. You may answer some of none of the questions. Please remember that your results will be kept confidential.

Thank you for your time,

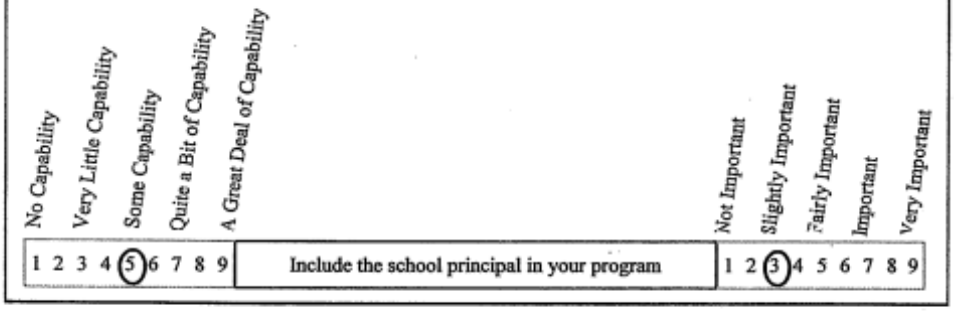
Catrina K. Pollard

Murray State University

APPENDIX E
SURVEY

Please respond to the following questions related to your capabilities in the following items and how important those items are in your program.

For Example: If you feel that you have 'Some Capability' regarding, "Include the school principal in your program", circle the number 5 on the scale to the left of the item. If you feel that it is 'Slightly Important' to "Include the school principal in your program", circle the number 3 on the scale to the right of the item.



Respond using this scale to indicate your **capability** relative to each item

Respond using this scale to indicate your perception of the **importance** relative to each item

Please complete both ends of the scale

What is your level of **capability** to:		How **Important** is it to:
1 2 3 4 5 6 7 8 9	Motivate students to learn	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Manage student behavior	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Use a variety of teaching techniques	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Teach students to think critically	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Create lesson plans for instruction	1 2 3 4 5 6 7 8 9

Respond using this scale to indicate your **capability** relative to each item

Respond using this scale to indicate your perception of the **importance** relative to each item

No Capability *Very Little Capability* *Some Capability* *Quite a Bit of Capability* *A Great Deal of Capability*

Please complete both ends of the scale

Not important *Slightly Important* *Fairly Important* *Important* *Very Important*

What is your level of **capability** to:		How **Important** is it to:
1 2 3 4 5 6 7 8 9	Respond to difficult questions from my students	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Craft good questions for my students	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Adjust lessons for individual students	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Evaluate student learning	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Use a variety of assessment strategies	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Provide alternative explanations when students are confused	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Implement alternative strategies in my classroom	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Provide appropriate challenges for very capable students	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Teach students with special needs	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Utilize computers in my teaching	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Utilize multimedia in my teaching	1 2 3 4 5 6 7 8 9

Respond using this scale to indicate **your capability relative to each item**

Respond using this scale to indicate **your perception of the importance** relative to each item

No Capability
Very Little Capability
Some Capability
Quite a Bit of Capability
A Great Deal of Capability

Please complete both ends of the scale

Not Important
Slightly Important
Fairly Important
Important
Very Important

What is your level of **capability** to:		How **Important** is it to:
1 2 3 4 5 6 7 8 9	Manage a horticulture laboratory/greenhouse	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Implement a curriculum in agriculture	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Manage an agricultural mechanics laboratory	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Effectively conduct field trips	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Advise FFA meetings	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Train a chapter officer team	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Assist students in planning FFA chapter activities	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Assist students planning FFA banquets	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Assist students in facilitating FFA fundraising activities	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Assist students in preparing FFA degree applications	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Assist students in preparing FFA proficiency applications	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Assist students in preparing a Program of Activities	1 2 3 4 5 6 7 8 9

Respond using this scale to indicate your **capability** relative to each item

Respond using this scale to indicate your perception of the **importance** relative to each item

No Capability
Very Little Capability
Some Capability
Quite a Bit of Capability
A Great Deal of Capability

Please complete both sides

Not Important
Slightly Important
Fairly Important
Important
Very Important

What is your level of **capability** to:		How **Important** is it to:
1 2 3 4 5 6 7 8 9	Coach leadership based (Eg. Speaking, Parliamentary Procedure etc.) CDE teams	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Coach skills based (Eg. Evaluation, Ag. Mechanics, etc.) CDE teams	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Utilize the FFA Alumni	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Utilize a Program Advisory Board	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Recruit new FFA members	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Assist students in recruiting new FFA members	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Assist students in developing an effective public relations program for the FFA chapter	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Supervise students during FFA trips and activities	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Assist students in developing community service projects	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Provide career exploration opportunities for students	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Develop SAE opportunities for students	1 2 3 4 5 6 7 8 9

Respond using this scale to indicate your **capability** relative to each item

Respond using this scale to indicate your perception of the **importance** relative to each item

No Capability
Very Little Capability
Some Capability
Quite a Bit of Capability
A Great Deal of Capability

Please complete both sides

Not Important
Slightly Important
Fairly Important
Important
Very Important

What is your level of **capability** to:		How **Important** is it to:
1 2 3 4 5 6 7 8 9	Motivate students to have an SAE program	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Supervise student entrepreneurship SAE programs	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Supervise student placement SAE programs	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Supervise student production SAE programs	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Conduct home/SAE visits	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Make recommendations for students' SAE projects	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Utilize resources to make recommendations to students' SAE projects	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Assist students in keeping SAE records	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Utilize the community to develop SAE opportunities for students	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Show students the value of SAE programs	1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9	Assist students in receiving recognition for SAE projects	1 2 3 4 5 6 7 8 9

Personal Information

I plan to teach agricultural education for the 2020-2021 school year (check one):

Yes_____ No____

What is your highest level of education (check one):

____B.S. _____M.S. _____Ed.S _____Ed.D/Ph.D

Sex (check one): M____ F____

What is your age? _____

+

_____ABAC ____FVSU _____UGA-Athens _____UGA-Tifton ____Seeking

Alternate Certification

Please share any comments you have about your experiences as a first year teacher:

APPENDIX F

FIRST REMINDER

FIRST REMINDER

Dear <Name> January 5, 2020

You recently received an email invitation to participate in a research study of first year agricultural education teachers in Georgia. I am emailing because your responses are very important in determining the perceived self-efficacy of teachers in their first year. The invitation to take the questionnaire was sent from the secure on-line survey provider Survey Monkey. Please check your junk-mail folder for the message. If you would prefer a mailed copy of the instrument, please respond to this email with an appropriate address. Again, I appreciate your assistance.

Thank you for your time,

Catrina K. Pollard

Murray State University.

APPENDIX G

SECOND REMINDER

SECOND REMINDER

Dear <Name> January 5, 2020

You have recently received an email invitation to participate in a study about the perceived self-efficacy of agricultural educators in their first year of teaching. I am emailing because I value your opinion and your responses assist in determining perceptions of first year teachers.

The invitation to take the questionnaire was sent from the secure on-line survey provider Survey Monkey. Please check your junk mail for the message. If you would prefer a hard copy of the instrument, please respond to this email with an appropriate address. Again thank you for your time.

A small token of appreciation will be mailed at the completion of the survey.

Catrina K. Pollard

Murray State University

APPENDIX H

FOLLOW-UP PHONE CONTACT

FOLLOW UP PHONE CONTACT TEXT

Hello, is <Name of Teacher> there? This is Catrina Pollard from Murray State University. How are you today? I am calling to see if you have received the questionnaire about the perceived self-efficacy of teachers within their first year.

(If they had received the questionnaire) Fantastic, I would appreciate if you could complete it and return it to me.

(If they have not received the questionnaire) I would be glad to send you another copy. Is there a better email that I can forward you the link or do you prefer a hard copy of the questionnaire?

Thank you for your time and responses to the questionnaire.

APPENDIX I

Permission to use Figure 2.1

Hi Catrina,

I grant permission for unlimited use of the rendition of the three-component model from the article Development of the Integrated Three-Component Model of Agricultural Education from the Journal of Ag Ed.

Hope you are doing well,

Barry

D. Barry Croom
Professor
Agricultural Leadership, Education and Communication

STEM Research and Development Lab
2360 Rainwater Road | Tifton, GA 31793
229-386-3116 | dbcroom@uga.edu | Twitter @AgEdLab

UNIVERSITY OF GEORGIA

APPENDIX J

Georgia Agricultural Education Program of Work

Georgia Agricultural Education
Program of Work and Performance Evaluation
2019-2020 High School Program of Work

Employment Begin Date	Employment End Date
7/1/2019	6/30/2020

Program of Work	Evaluation
Teacher Meets Standards: **YES**	Teacher Meets Standards: **NO**
System Meets Standards: **YES**	System Meets Standards: **NO**

POW	Item	POW Professional Accomplishments/Requirements	Evaluation
Yes	1	The teacher holds a valid teaching certificate in agricultural education or a provisional certificate in agricultural education.	No
Yes	2	The Teacher does not have any after school duties and responsibilities that would conflict with the FFA and SAE activities. *The Agricultural Education Program has three components. The classroom, FFA, and SAE combine to make the complete and balanced program. Students must be trained for Career Development Events and supervised at these activities. The students must have an SAE that requires home and worksite visits by the Agriculture Teacher. These activities occur throughout the school year and during the summer. As a result the Agricultural Education Teacher should not have any after school duties and responsibilities that would conflict with the FFA and SAE activities for which they receive extended day and extended year. This would include athletic and administrative duties or assignments.	No
Yes	3	The teacher will comply with the Agricultural Education Teachers Creed.	No
Yes	4	The teacher will be actively involved in the professional teacher organization, Georgia Vocational Agricultural Teachers Association (GVATA), which is dedicated specifically to agricultural educators in the state.	No
Yes	5	The teacher will attend all area meetings for agricultural education teachers (summer, fall, winter, spring).	No
Yes	6	The teacher will attend and participate in the GVATA Summer Leadership Staff Development Conference.	No
Yes	7	The teacher will attend and participate in the GVATA Mid-Winter Staff Development Conference.	No
Yes	8	The teacher will conduct at least two advisory committee meetings. Membership of the advisory committee will include agricultural industry and community leaders (minimum of seven). The teacher will keep proper advisory committee minutes.	No
	8A	Proposed advisory committee meeting location/dates.	
	8B	List Advisory Committee Members. Name/Title/Occupation (Minimum of Seven).	
Yes	9	The teacher will complete and submit detailed monthly reports by the 10th day of each month. Reports should include contacts, extended day and extended year hours which reflect participation in the 3-Component Model.	No

	10	The teacher will attend a minimum of one Professional Learning activity conducted by the Agricultural Education Staff (minimum of 8 contact hours) in which the teacher registered for the PLU through the CTAERN. The Summer Leadership Conference and Mid-Winter Leadership Conference do not satisfy this requirement. Please list AgEd related PLU classes that they have taken the previous 2 years.	
Yes	11	All agricultural courses taught will be listed on the Agricultural Education Courses list approved by the Georgia Department of Education.	No
Yes	12	The teacher will teach no more than 1 out-of-field segment.	No
Yes	13	The teacher will develop a course calendar and syllabus for each course.	No
Yes	14	The teacher will develop practical lesson plans and file plans for each course taught.	No
Yes	15	The teacher will include systematic instruction on FFA in the instructional program.	No
Yes	16	Each course taught will include a minimum of one unit on leadership and personal development.	No
Yes	17	The teacher will provide students with systematic instruction on record keeping.	No
Yes	18	The teacher will insure that a minimum of 60 percent of students have in place an approved Supervised Agricultural Experience Program.	No
Yes	19	The teacher will provide students with a state approved SAEP recordbook appropriate for their Supervised Agricultural Experience Program. The AET Record Book is an approved option.	No
Yes	20	The teacher will provide project supervision for each student with an approved Supervised Agricultural Experience Program per Monthly Report documentation.	No
Yes	21	The teacher will submit at least one proficiency application for regional consideration by the due date on the state calendar.	No
Yes	22	The teacher will maintain an FFA Chapter & serve as advisor.	No
Yes	23	Each teacher will comply with FFA Affiliation standards by including each student enrolled in their agricultural education classes on their FFA roster and pay their chapter's Affiliation fee by the due date on the state calendar.	No
Yes	24	The chapter and current year fiscal officers will complete an FFA Program of Activities and Budget and submit to the Region office by the due date on the state calendar.	No
Yes	25	The chapter officers will participate in the Georgia FFA Official Chapter Officer Leadership Training Workshop or conduct a chapter officer leadership planning retreat.	No
Yes	26	The chapter will hold a minimum of ten chapter meetings during the year using the official opening and closing ceremonies. Official minutes should be recorded for each meeting.	No
Yes	27	The chapter will conduct activities in recognition of National FFA Week.	No
Yes	28	The chapter will conduct a community service project.	No
Yes	29	The teacher will have two official delegates that register for and participate in the entire State FFA Convention.	No
Yes	30	The chapter will have at least one qualified applicant per teacher for the State FFA Degree (newly established departments will have three years to fulfill).	No
Yes	31	The chapter will conduct an FFA parent/member awards banquet.	No
Yes	32	The Chapter will submit a National Chapter Form I application and two of the following applications to the region office:	No
Yes		American FFA Degree	No
No		National Chapter Application (Form II)	No
Yes		National FFA Week Recognition	No
Yes		WLC Scholarship Application	No
No		State Star Application	No
No		American Star Application	No
Yes	33	Each teacher will have students participate in a minimum of five CDEs. (A minimum of two CDEs must be Leadership CDEs (*); and a minimum of two CDEs must be team events.)	No

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Yes		Agricultural Communications CDE	No
Yes		Agriculture Education CDE*	No
No		Agricultural Marketing Plan CDE*	No
No		Agricultural Sales CDE*	No
No		Agricultural Technology & Equipment ID CDE	No
No		Agricultural Mechanics CDE	No
No		Area Forestry Field Day	No
No		Agriscience Fair	No
Yes		Creed Speaking CDE*	No
No		Conduct of Chapter Meetings CDE*	No
Yes		Dairy Cattle Judging CDE	No
Yes		Discussion Meet CDE*	No
No		EMC Wiring CDE	No
No		Environmental Natural Resources CDE	No
Yes		Extemporaneous Public Speaking CDE*	No
No		Farm Business Management CDE	No
No		FFA Quiz CDE	No
No		Floriculture CDE	No
No		Floral Design CDE	No
No		Forestry CDE	No
Yes		Horse Judging CDE	No
Yes		Employment Skills CDE*	No
No		Land Judging CDE	No
No		Lawnmower Driving CDE	No
Yes		Livestock Judging CDE	No
No		Meats Judging CDE	No
No		Nursery / Landscape CDE	No
Yes		Parliamentary Procedure CDE*	No
Yes		Poultry Judging CDE	No
No		Prepared Public Speaking CDE*	No
No		Tractor Operation & Maintenance CDE	No
No		Wildlife Management CDE	No
Yes		Vet Science CDE	No
Yes	34	The teacher will participate with students in one or more of the following FFA Leadership activities. Please indicate projected number in attendance.	No
		Area Awards Banquet	
		Greenhand Jamboree	
		National FFA Convention	
		FFA Success Conference	

		Georgia FFA Summer Leadership Camp	
		Region Rally	
Yes	35	The teacher will maintain all facilities in a safe, neat, and aesthetically pleasing condition.	No
Yes	36	Local system will provide transportation and/or travel funds to meet the Agricultural Education program of work standards at no expense to the local FFA Chapter.	No
Yes	37	Teacher will have a planning period during school hours.	No
Yes	38	The local system will provide adequate budget for supplies.	No
Yes	39	The local system will provide adequate budget for equipment.	No
Yes	40	The local system will provide adequate computers.	No
Yes	41	The local system will provide adequate office space.	No
Yes	42	The local system will provide access to audio/video equipment.	No
Yes	43	The local system will provide for specialized facilities or have an approved plan for addressing specialized facility needs.	No
Yes	44	The local system will provide adequate classroom facilities.	No
Yes	45	The local system will provide adequate funding for facility maintenance.	No
Yes	46	The teacher will maintain an FFA Chapter & serve as advisor.	No
Yes	47	The teacher will not teach more than one segment out of field per grading period.	No
Yes	48	The local system will compensate teacher at minimum hourly rate for extended day.	No

Teacher Signature _____ Date _____

Approve by: _____ Title _____ Date _____

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